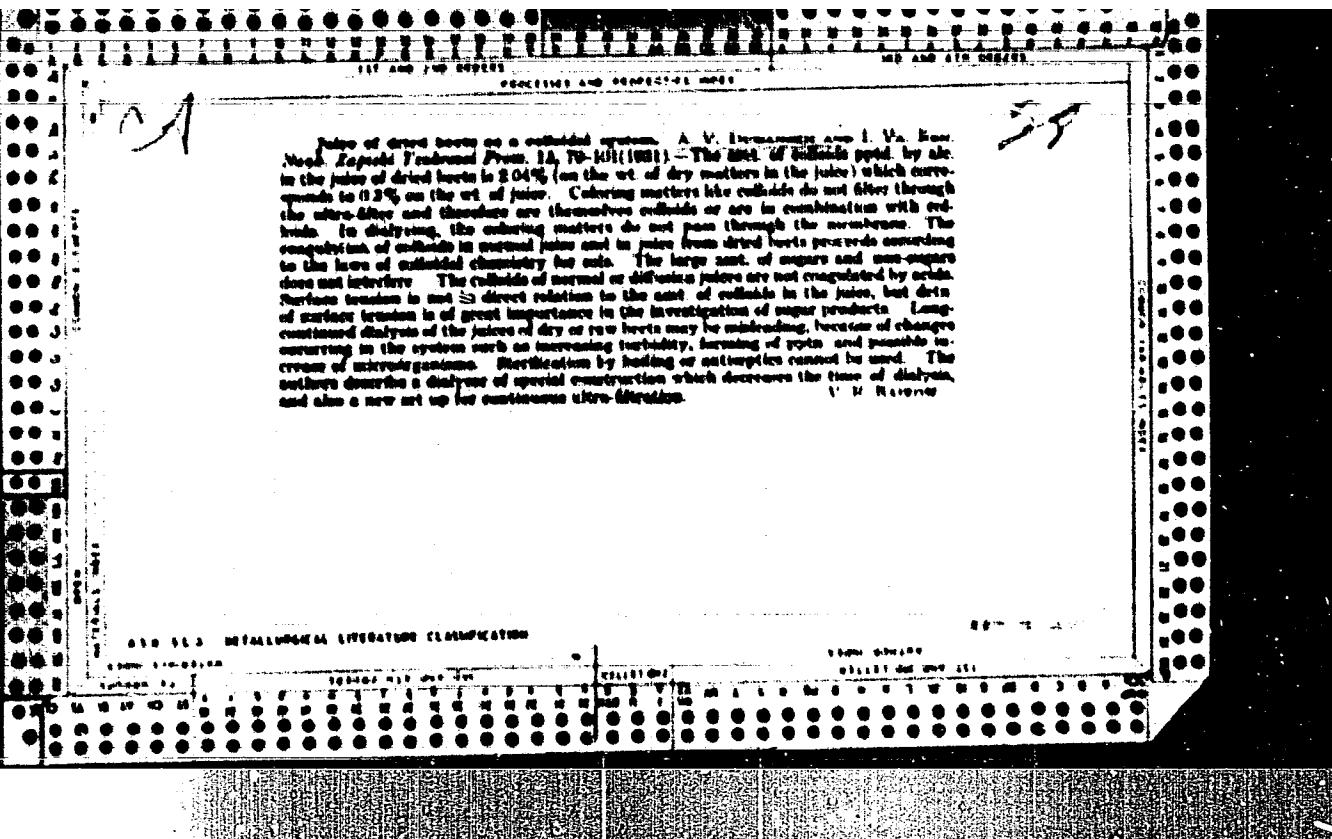


DUMANSKIY, A. V., and XHARIN, S. I.

"Effect of the Temperature in Obtaining Diffused Sap on the Amount of colloids in it," Zh. Sakharn. Prom., 5, 494, 1931.

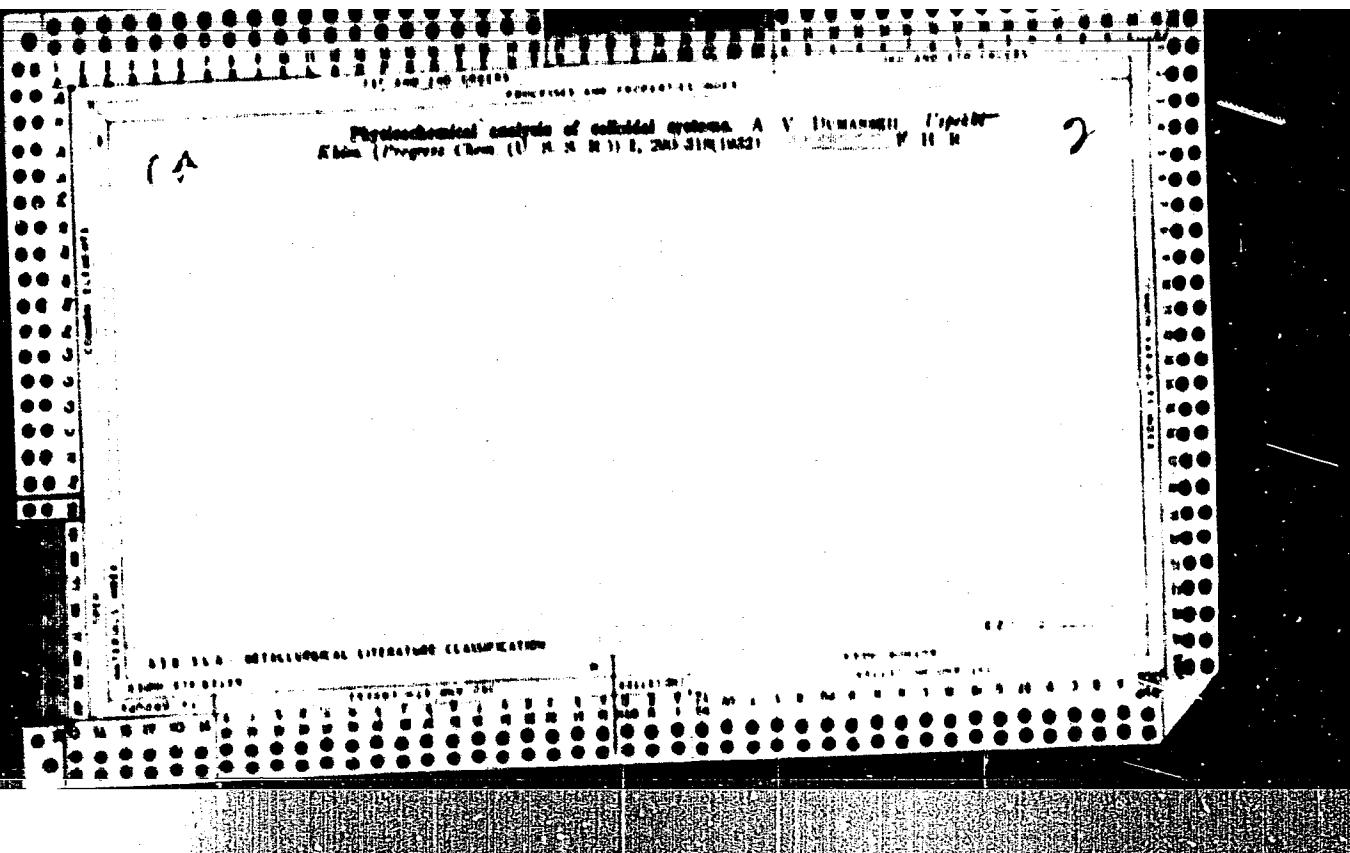
DUMANSKIY, A. V., KHARIN, S. Ye., and ACEYEV, L. M.

"Colloids of diffused Sep," Zh. Sakharn. Prom., 5, 591, 1931.



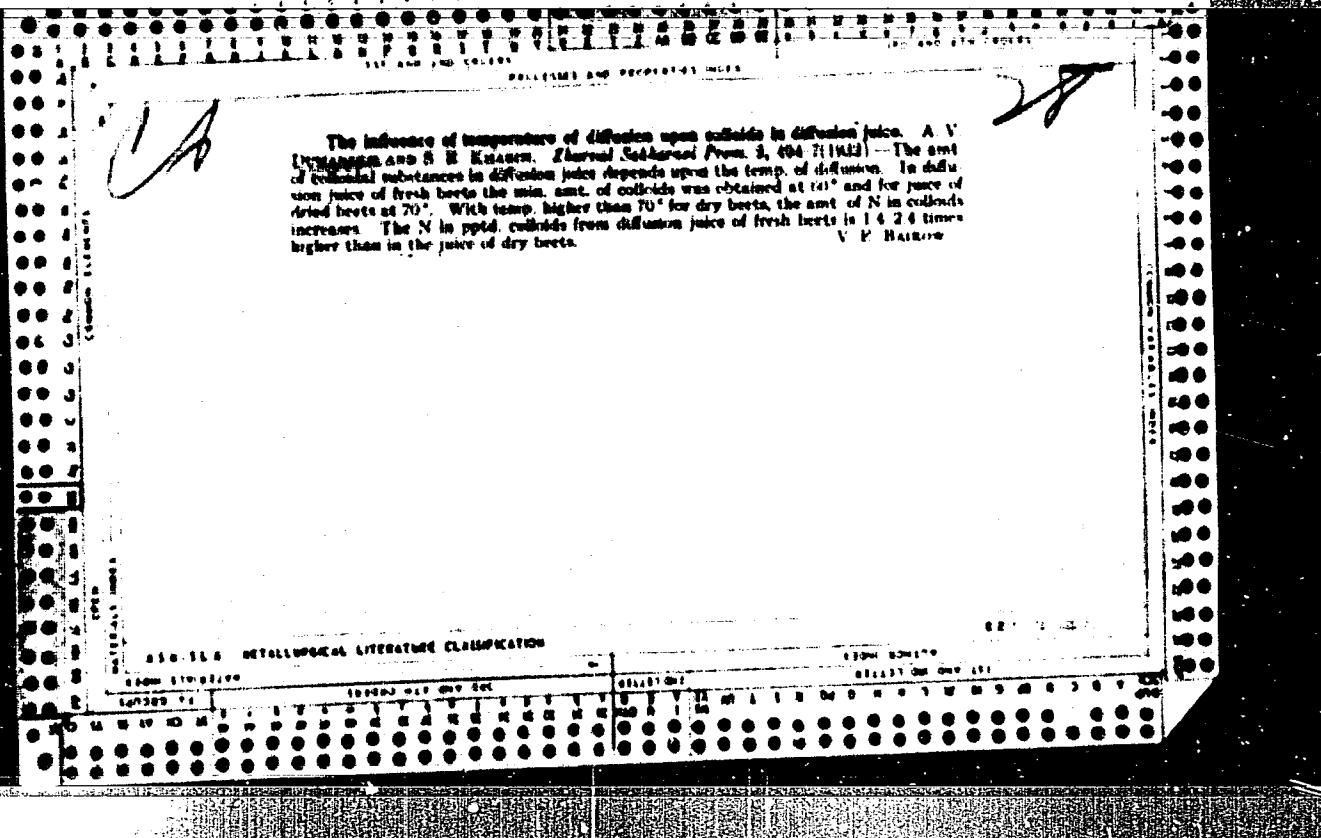
DUMANSKIY, A. V.

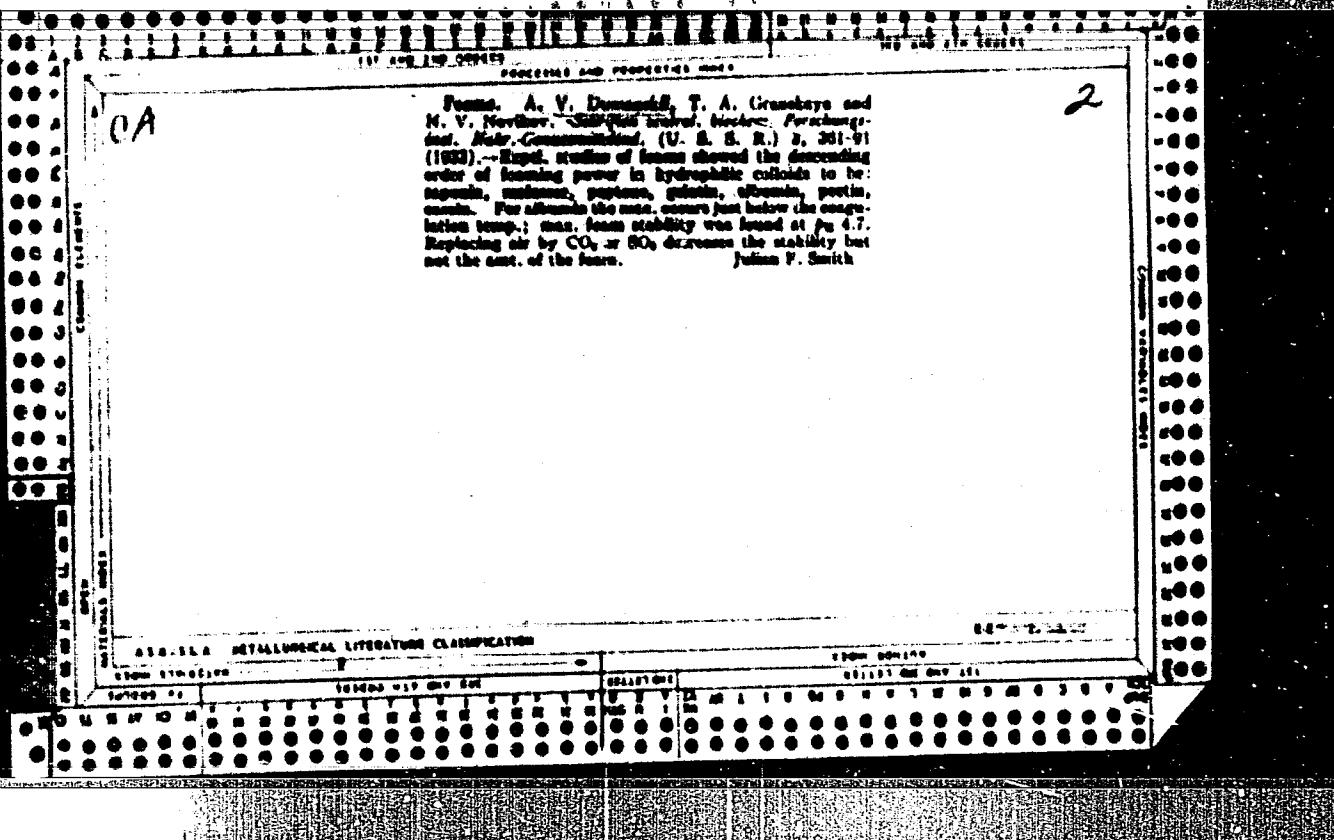
"Dispersability and colloidal state of matter," (uchebn, posobiye),
Khar'kov-Jiev, 1932, 208 pp.



PHYSICO-CHEMICAL ANALYSIS APPLIED TO PEPTIZATION. I. PEPTIZATION OF THE PROTEINS OF THE PEA. A. V. LIPINSKII, N. O. ANTOSHOVICH AND A. B. SELABY. J. GEN. CHEM. (U.S.S.R.) 18, 367-374 (1948). — Pea flour was shaken with varying amounts of water for 3 days at 35°, and the materials that passed into solution were dried by peptization with an HCl-K₂O mixt. The quantity of peptized protein reaches a max. with relatively small quantities of water; further addition of the solvent dil. the extract, mixt., thus preventing the peptization of globulins. The peptization of globulins in solns. of electrolytes was next studied. The results were summarized in the form of triangular diagrams (cf. C. A. 28, 2346). The variable components were water, pea flour (washed free from the starch and albumin and dried at 35°) and the electrolyte (dry NaCl, 2 N eq. KCl, 2 N BaCl₂, 1 N NaClH and 0.1 N NaCl). A peptization max. was found at 10.37% and a less distinct one at 25% NaCl. The first max. probably corresponds to legumin, the second to vicilin. If increasing amounts of flour are added to NaCl solns. of a given concn., the amt. of extd. protein passes through a sharp max. Expts. with KCl yielded a similar picture except that the second concn. max. was not obtained. BaCl₂ was a stronger peptizer than KCl, but otherwise was similar. In the expts. with NaCl and KCl the β_p equaled 42.43, with BaCl₂ 4.8-4.6. When alkali was used as the peptizer, the max. only was obtained at 0.25 N NaOH, corresponding to β_p 13.8. With KCl as the peptizer, the max. was at 0.10 N NaOH, and β_p 1.4-1.8.

A. B. SELABY



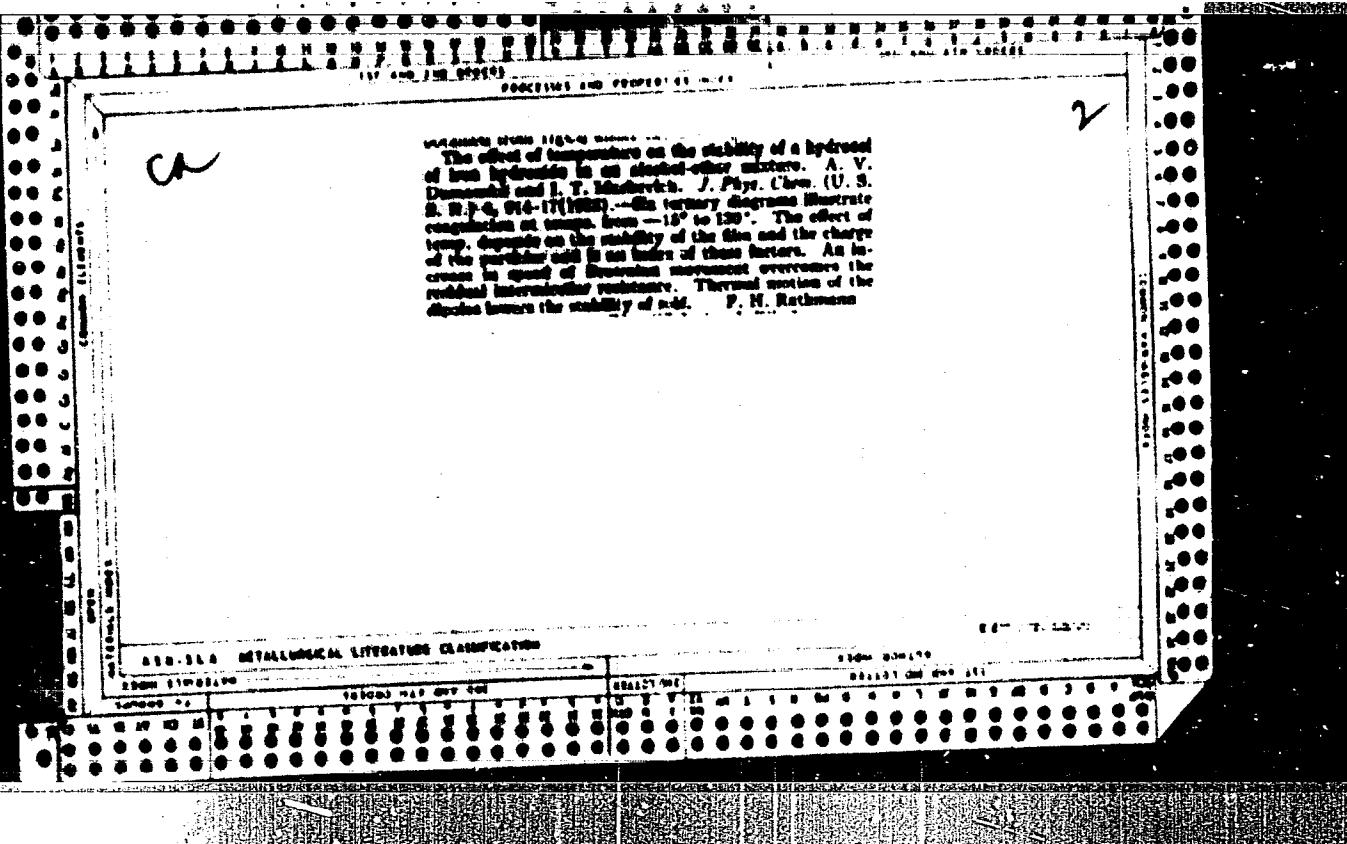


method for determining colloid in aqueous solutions. V. Dzessudov and A. F. Dzessudova. *Schriften Akad. Wiss. Russ. Föderat. Physikal.-Chem. Inst.*, No. 1-2, 1931, p. 103-120 (1932).—Breaking eq. conditions with $\text{Hg}_2\text{Cl}_2\text{-HgCl}$ mixture can be retained for determination of colloid in hydromes, within 0.5-5%; but no generally exact procedure can be reported because optimum conditions may be maintained for each hydromes, preferably by reducing the area of complete coagulation on triangular coagulation. For alumina rods the optimum f_0 is about 0.5. Alumina do not affect accuracy in rate of sedimentation, gelatin, dextrin, etc. Results for these 4 colloids are given.

2

410.110 METALLURGICAL LITERATURE CLASSIFICATION

• 1000000000



"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00041152

DUVANSKIY, A. V., KUL'MAN, A. G., and GOLOSOVA, O. M.

"Bound Water in Bread Making," M-L, Snabtekhizdat, 1934.

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00041152

DUMANSKIY, A. V.

"Use of the triangular diagram in questions of colloidal chemistry, 1934.
Gos. n-i in-ta, Koll. Khim., vyp. 1, 5, 1934.

The effect of electrolytes and non-electrolytes and their common action on the process of gelatinization and the determination of the hardness of gels. A. V. Dumanoff and V. I. Sverdlova. *Bull. inst. colloidov. University* 1934, No. 1, 17. *ibid. Chem. Zentral.* 1936, II, 1317.—The hardness or strength of protein hydrogels in the presence of NaCl, CaCl₂, FeCl₃, K₂HPO₄, urea, sugar and alkali was investigated. The location of the lines of equal hardness is presented that it could not always be said whether one or another substance increased or reduced the firmness of the gel. The effect of the added substance is determined by the ratio between the content of the gel and that of the added substance. Alkali in high content, reduces the firmness of the gel, while alkali hardens it. The effects of Na₂HPO₄ and NaCl·H₂O, are still more complicated. The simultaneous effect of an electrolyte and a non-electrolyte was also studied. In such cases an additive effect, an antagonism or a synergism could be observed depending upon conditions. M. G. Moore

M. G. Moore

2

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00041152C

ca

28

Purification of the sirup in the manufacture of sugar by means of flotation. A. V. Chempakal, P. M. Saha and S. R. Kharis. Bull. Soc. Chim. France 1934, No. 1, 43-44; Chem. Zentral. 1936, II, 2361. It is possible to remove part of the surface-active impurer constituents by "interfloatation" with the froth. Better results are obtained at 35-40° than at 40°. This effect is due for the most part not to the flotation, but to better adsorption by the dispersive CaO₂ ppt. which forms in the cold. The process removes to the greatest degree those substances which have most surface activity. Purification of cane juice and molasses by the flotation method gave only inconsequential results. W. A. Moore

SEARCHED	SEARCHED AND INDEXED	INDEXED
SEARCHED	SEARCHED AND INDEXED	INDEXED

CA

Foam. A. V. Bhattacharji, T. A. Grushka and G. R. Vishnubhatla. *Ind. Standard. Nutr. Indus.* Vol. 1, No. 1, 1938, p. 110 (1934). Chem. Zentr. 1938, II, 2102. Cf. C. A. 28, 2975. — The influence of mannitol, glucose, lactose, sucrose, citric acid and tartaric acid on the foaming power of solns. of albumin (I) was studied. Mannitol and sugar increased the amt. of foam and rendered it more highly disperse and more stable. The acids reduced both the degree of dispersion of the foam and its stability. The behavior of solns. contg. 2 foam-producing substances was also studied. Four investigated were I with peptone (II), I with casein (III), I with honey (IV), II with III, and I with saponin (V). The I-V system formed poorer foam than solns. of either of the components. IV reduced the foaming power of solns. of I, II retarded foam formation in solns. of I and of V. No relation could be observed between viscosity and surface tension on the one hand and the properties of systems with 2 components on the other. The degree of dispersion of the foam became less as the concn. was reduced and the amt. of air blown through the system increased. The degree of dispersion of the elementary air bubbles, however, re-

mained the same. The foam-destroying action of several substances was also investigated. I formed unstable foams with Et, Me, vomit and Pr alkls. The formation of foam by I in the presence of benzene, kerosene and olive oil is closely related to the emulsification of the substances in question. If an emulsion of the benzene-water type is formed, then no foam appears; on the other hand, if an emulsion of the water-benzene type is produced, then a stable foam forms. The foam-destroying property of these substances reached a max. at a definite concn. which depended on the emulsification of the material. Unrefined sunflower oil has a very marked foam-destroying action. However, this property is lost after refining (cf. C. A. 28, 2975). M. G. Moore

ASB-1A METALLURGICAL LITERATURE CLASSIFICATION

SEARCHED	INDEXED	FILED	SEARCHED	INDEXED	FILED
SEARCHED	INDEXED	FILED	SEARCHED	INDEXED	FILED
SEARCHED	INDEXED	FILED	SEARCHED	INDEXED	FILED
SEARCHED	INDEXED	FILED	SEARCHED	INDEXED	FILED
SEARCHED	INDEXED	FILED	SEARCHED	INDEXED	FILED

DUMANSKIY, A. V.

"Water in the Colloidal Systems," Izv. vuz. Khim. i khim. vyp., 2,
1934.

DUMANSKIY, A. V., and DUMANSKAYA, A. P.

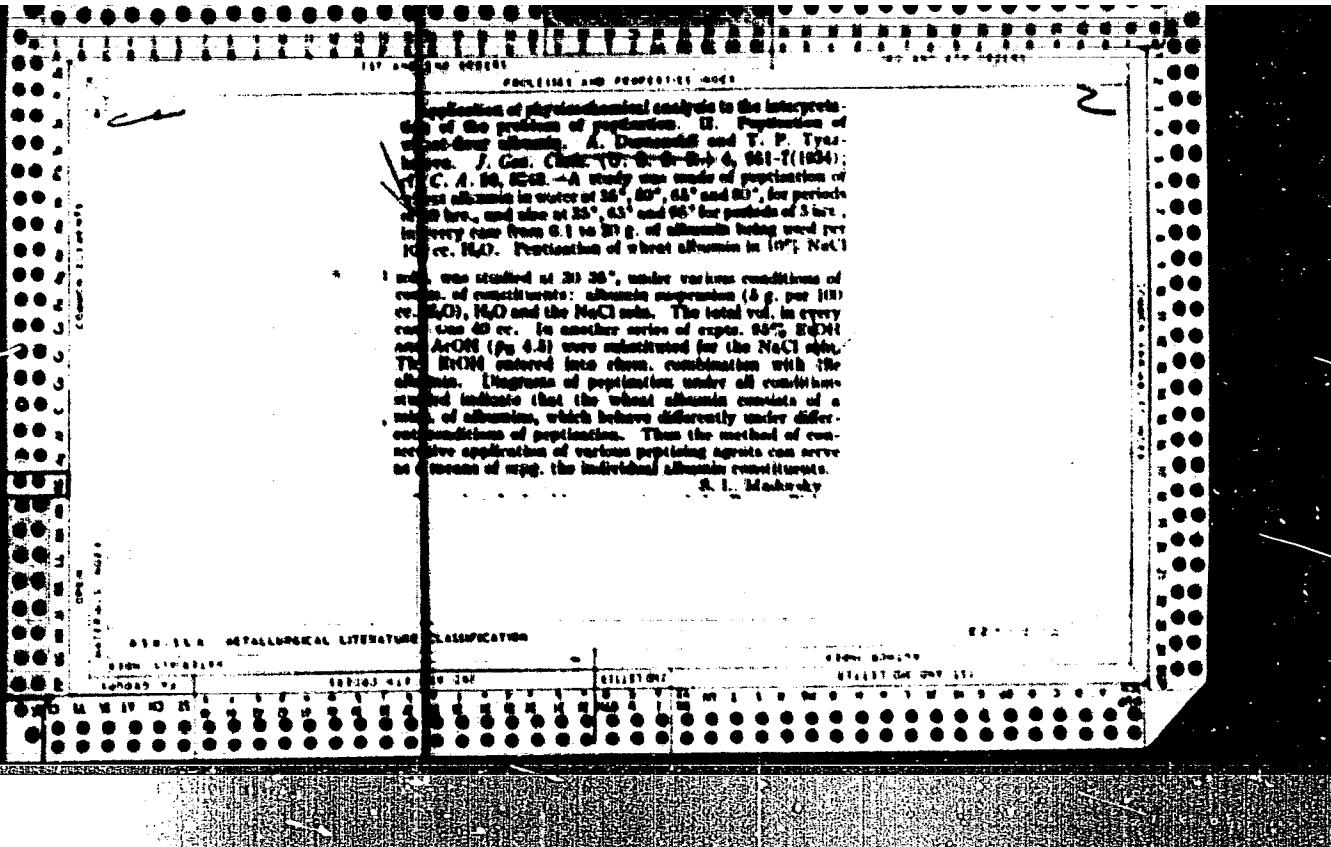
"Bound water in Soils," IZV. Vses. N-I In-ta, Koll-Khim, vyp. 2, 43, 1934.

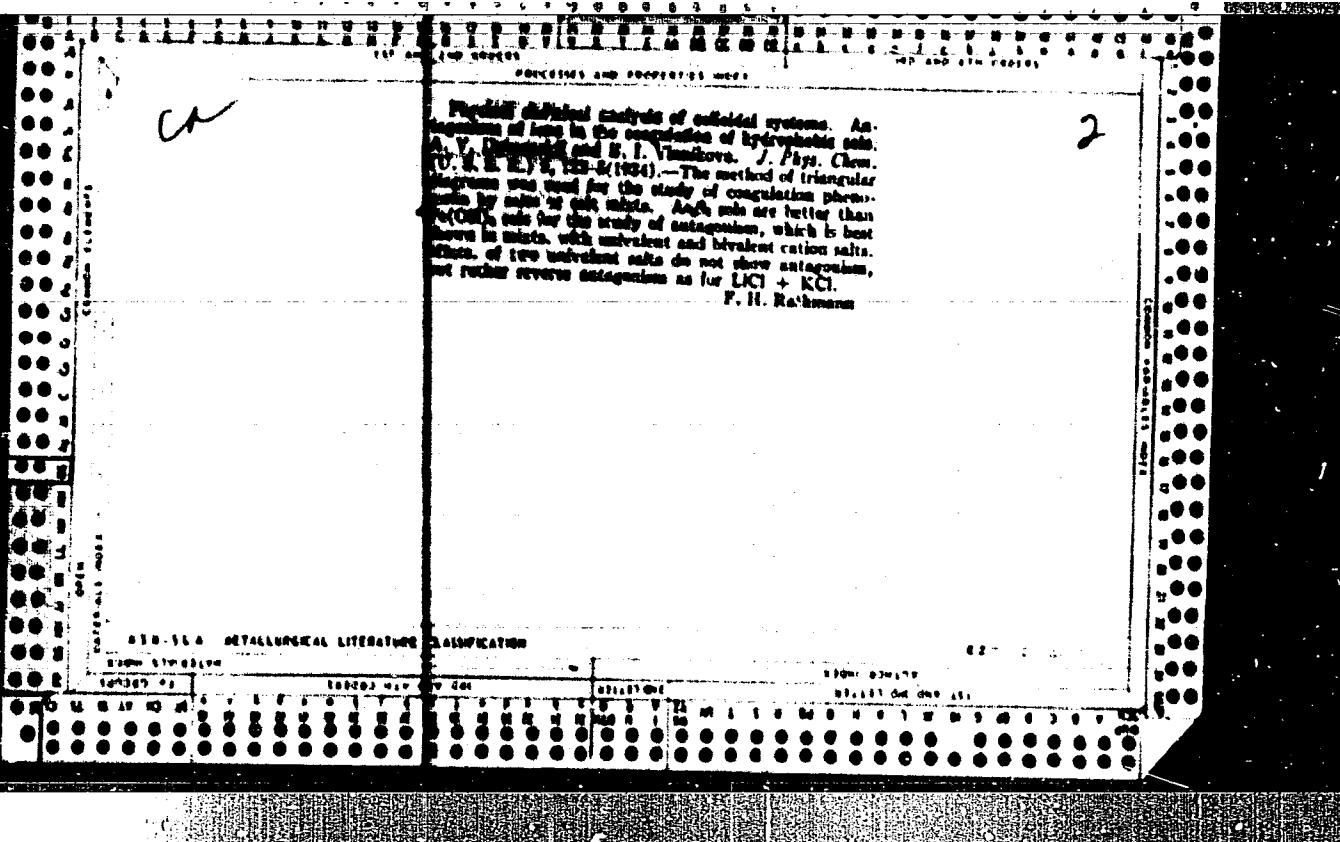
DUMANSKIY, A. V., and CHAPIN, M. V.

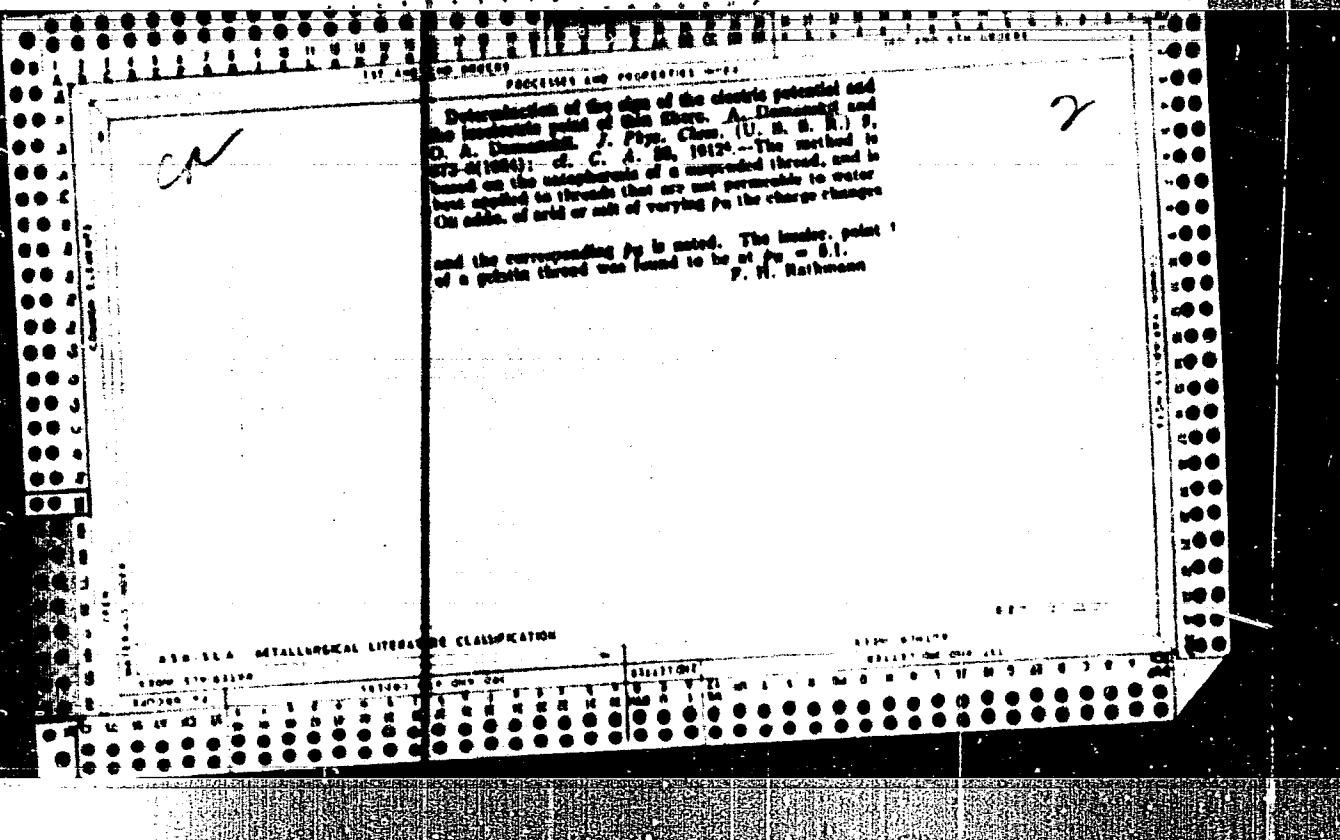
"Water in Soil and its Availability for Plants," Izv. Gos. N-i in-ta, Noll
Khim. vyp. 2, 56, 1934

DULANSKII, A. V., KRACHKOV, N., and LEVINS, Ye.

"Figures in Drying of Humidified Dispersed Systems (Powder-like Substances),
Izv. Gos. N-ta Akad. Nauk SSSR, vyp. 2, 88, 1934.







The cellulose water is hydrophilic cellulose systems.
A. A. Bochting, A. O. Kellman and O. N. Colombe,
U.S. Patent 2,345,743. (U. S. G. R.) V, 200-01 (1944).—The
object is associated with flour is an important property
of the cellulose present in flour dough, dough and bread.
Thus, the absorption capacity of different flours decreases
in the following order: cornflour, rye, oats, hard wheat,
soft wheat, potato. Different ingredients of the flours
have varying absorption properties; thus starch from
rye is more absorbent than that from wheat. The
cellulose-free flour and dough are characterized by their
high power of absorbing water. These cellulose have their
hydrophilic properties to a considerable extent in the presence
of water. Daily bread gradually loses its hydrophilic
properties. A. A. Bochting

16

Dewatering of distillery sludge by magnetism. A. Dement'ev and I. Cherevko. *Khrom. Prom.* No. 1, 6-10 (1987).—The addition of 0.15 g. of ultra-pressed (a waste product in sugar manuf.) to 100 cu. cm. of distillery sludge increases the dewatering rate of the sludge 2-2.5 times.
H. Cohen

DUMANSKIY, A. V.,

"Sciences of colloids. Dispersion and colloidal States of matter," (Univ. Text book) Glavn. red. Khimliteratury, M., 1935, 2nd edt., 1937, 3rd edit., 1938.

CH
yf

Determination of the particle size of the coloring substances in products of sugar manufacture by means of diffusion. A. V. Dumanov and S. B. Kharin. Trudy Zavodskikh i Naukovedcheskikh Seminarov No. 2, 769-808 (1955).—The radius of each coloring particle varies between 0.250 and 0.6 mic. A procedure of diffusion and a method of calcn. are given. V. E. Balakov

DUMANSKY, A. V., and CHAPEX, M. V.

"Properties of bound Water in Soil," Trudy Mezhdunarodnoy Assotsiatsii roch-
sovedov, no 35, 36, 1935. (Congress of Soil Scientists in Oxford).

DUMANSKIY, A. V., and CHAPKIN, M. V.

"Heat of Wetting. I. Action of Adsorbed Ions on Heats of Wetting," Kolloid-Z.,
71, 239, 1935.

DUMANSKIY, A. V., and CHAPKIN, M. V.

"Meat of netting. 2. Action of Adsorbed Air on Meat of Netting," Koll-Z.,
72, 55, 1935.

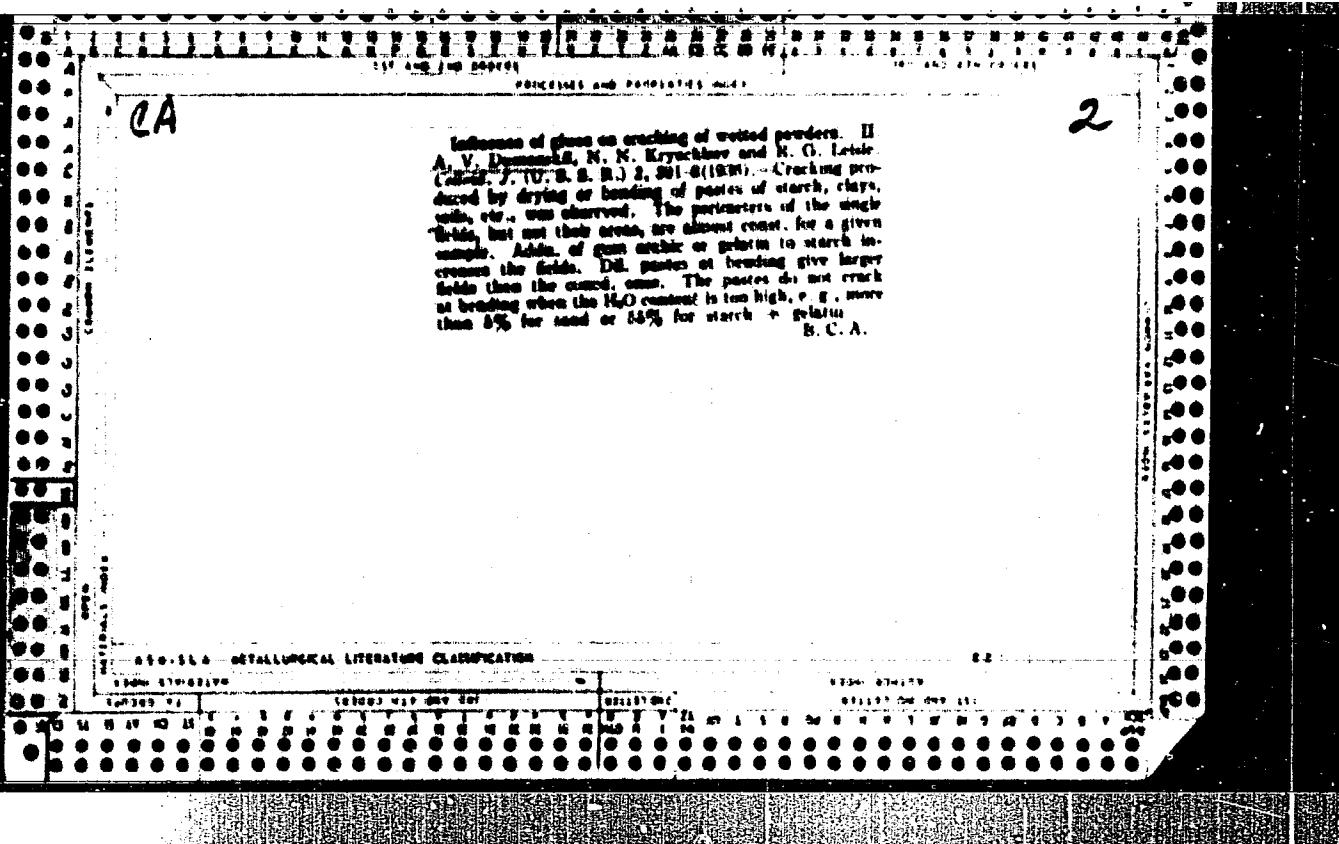
DULANSKIY, A. V., and CHIPEK, M. V.

"On the ultraporosity of Soil," Pozhvovedniye, no 1, 47, 1936.

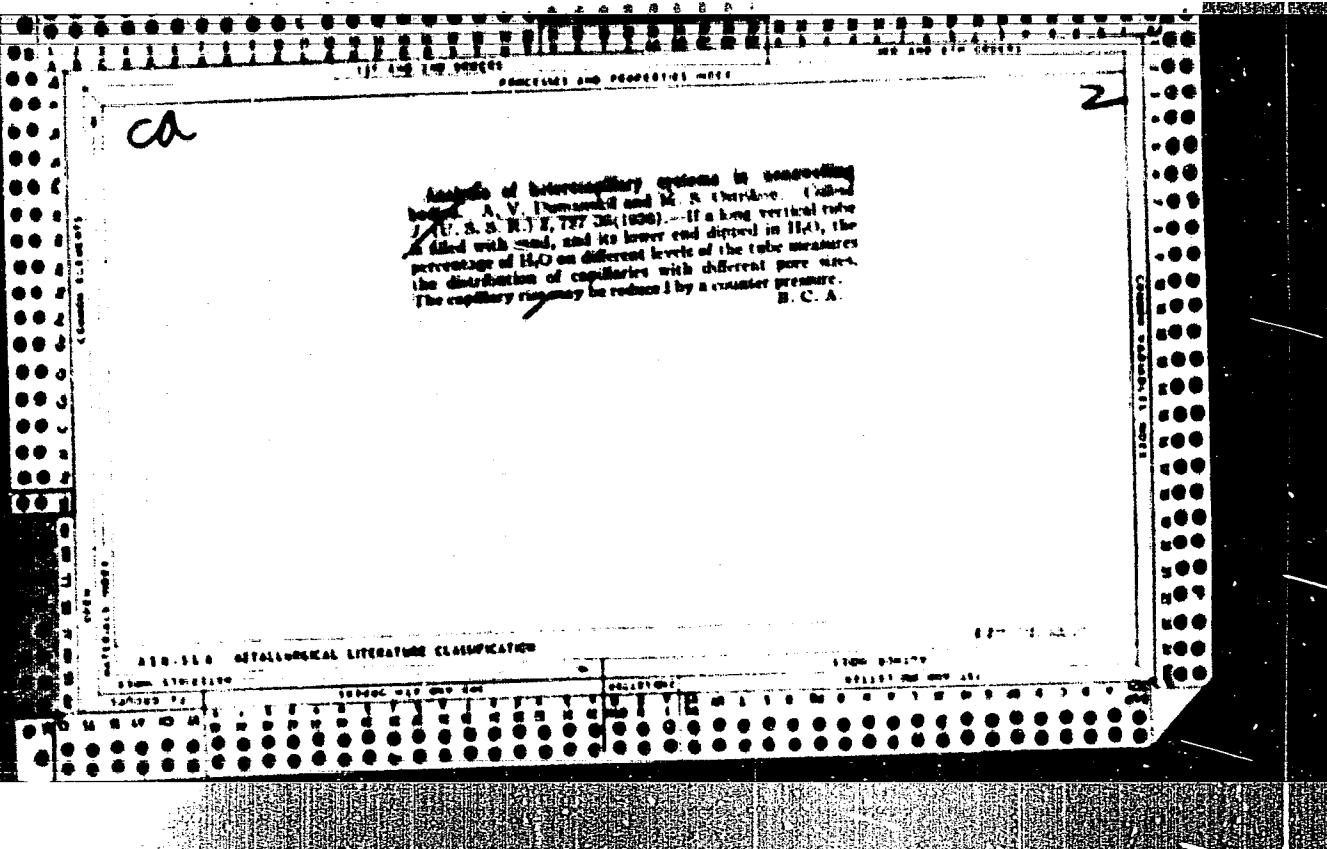
Chemical investigations of peat. A. Domanskii and M. Chapek. Colloid J. (U. S. S. R.) 1957-112 (1958). At 100 atm. only the chemically bound water and some of that in the intra pores should remain, 20-30% of the dry wt. of the peat. The chief factors preventing elimination of water during briquetting are the strength of the capillaries and the rapidly decreasing pressure inside the briquet, as well as the viscosity and surface tension of the water. By electrodialysis the H₂O content can be reduced to 25-30% of the dry wt. This dehydration of peat simultaneously increases both the hydrophilic power and the deformability of peat. The amt. of residual H₂O is less the less the thickness of the peat layer. The electrokinetic potential is greater the greater the bound water content, -3 mv. at 17%, 10.2 mv. at 6.5%. The addn. of CaCl₂ first increases (up to 0.01 M) and then decreases (more than 0.1 M) the bound water content. F. H. Rathmann

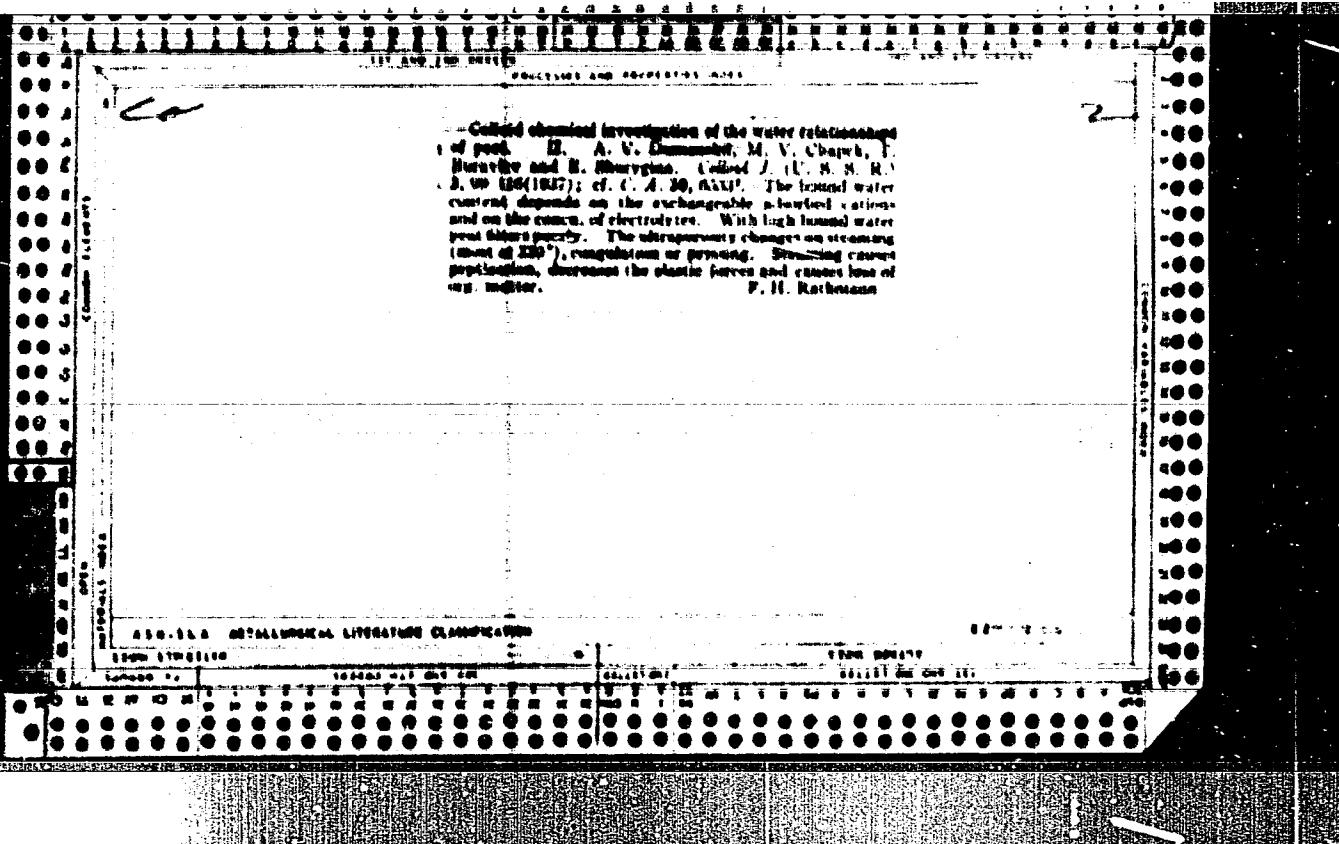
16

Determination of the amount of colloidal substances in beer. A. V. Domenichelli, R. E. Klarin and F. M. Mel'nikov. TEPKOF. T. C. S. N. R. J. 2, 301-70 (1956). The beer is diluted with 3 vols. dist. H₂O, and to 5 cc. of this add 10 cc. EtOH and 7.5 cc. ether. The precipitate is filtered after 40 hrs., washed with a 1:50, 7.5 H₂O-EtOH ether mixture, dried at 100-105° in vacuum and weighed. The colloid per liter equals the wt. found × 800. A ternary diagram of a system: beer-ether-alc. is given. F. H. R.



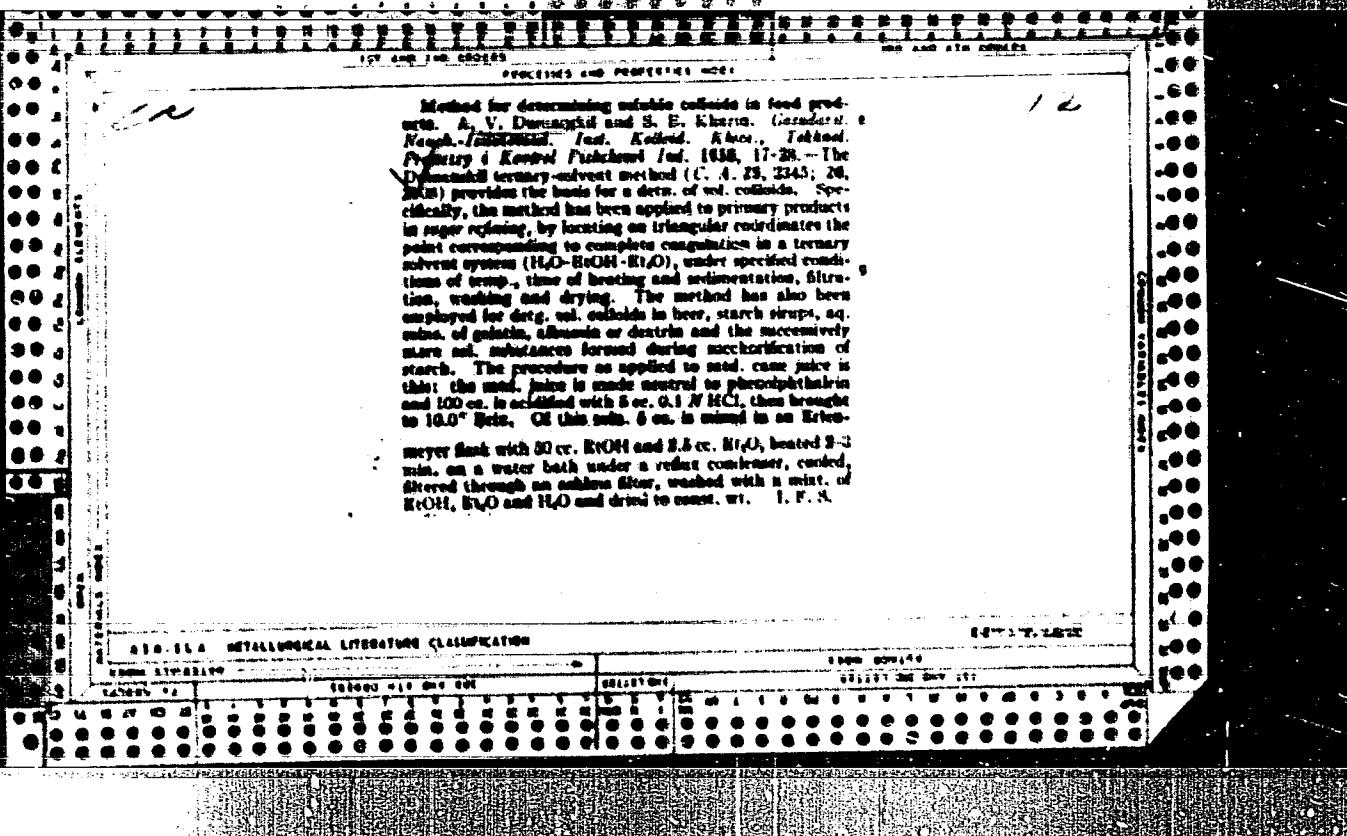
Use of the interferometer for the determination of bound water. A.V. Dzamanskii and O.V. Neiman. colloid J. (U.S.S.R.) 2, 615-19 (1936).- The Dzamanskii interferometric method (cf. C.A. 28, 1245') is very accurate. With increasing content of glucose in soln. The bound water contents of 2 samples of cotton wool rap dry decreased. As the glucose content decreased from 4 to 0%, the bound water increased from 8 and 10% in the 2 kinds of cotton wool to 106 and 21%. Bound-water content decreased linearly with rise of temp. from 91 and 26% at 0° to 57 and 18%, resp., at 48°. By extrapolation both curves cross 0% at 128° & where it is assumed that disintegration of the diffusion layers occurs. F.R.





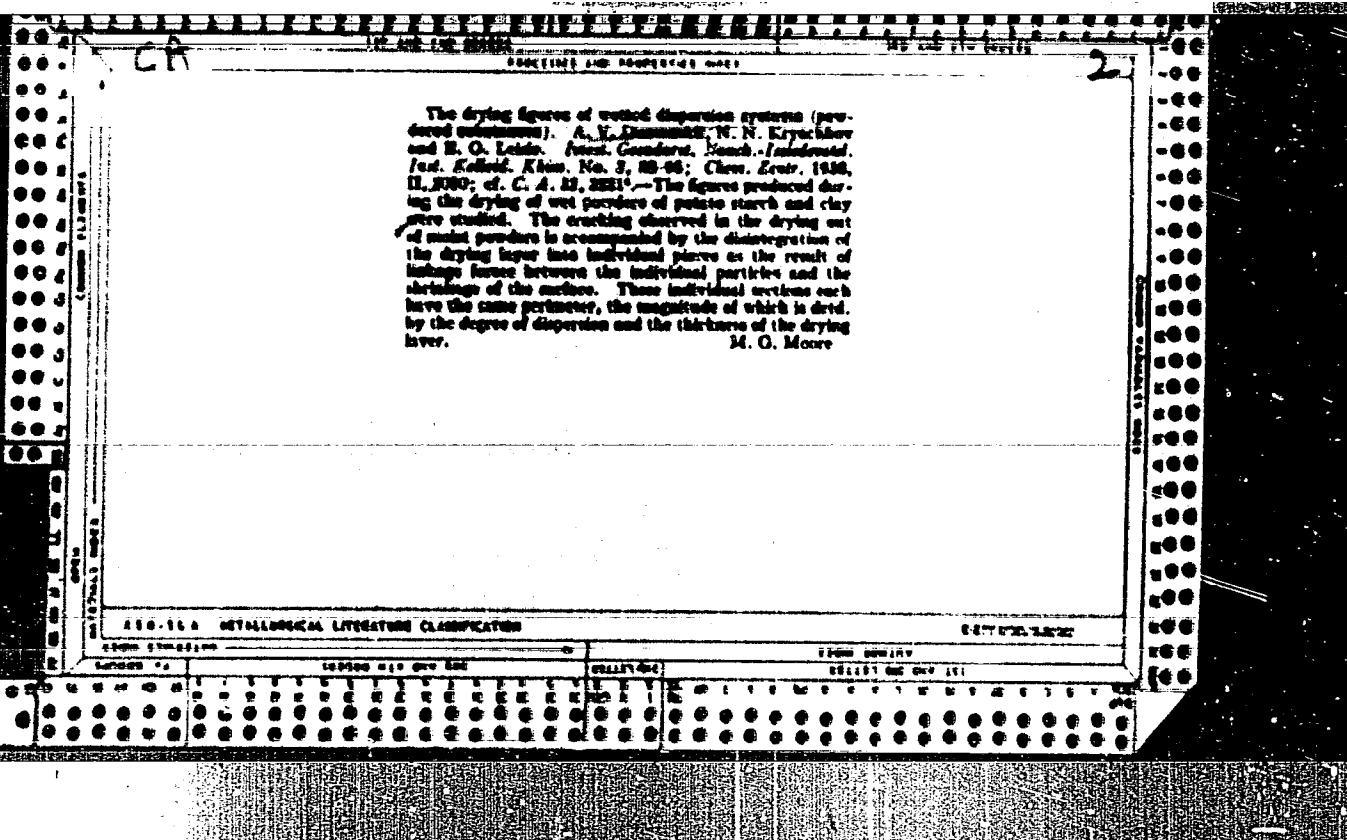
2
Parachor of substances of surface-active substances and
the phenomenon of adsorption. A. V. Hemagadi and T.
P. Hinchliffe. Colloid J. (U.S.A.), 30, 171 (1971).
Math. On the basis of non-correspondence between exp'd
values of parachors and those calcd. by the equation of
Hermann and Andrew (C. A. 13, 2438), an equation is de-
veloped for equl. concn. of surface-active compds. in eq
solns. at the H₂O-air interface. This concn. (in "surface
area") is used in developing an equation of adsorption.
The equations are applied to eq. values of the following org
acids: valeric, hexrylic, propionic and acetic. S. L. M.

2
RECORDED AND INDEXED 1964
General structural theory of colloidal particles (continued). A. V. Dombrowski, Gomberg, Koch, Lide, Smith, Tait, Tolosa, Viles, Tishchenko, Volkeny & Kurnel' (selected Refs. 1964, 6-10). A distinction is drawn between inherently colloid substances and colloidal dispersed particles of crystalline substances, because they are fundamentally different in adsorption behavior, i.e., potential, hydration capacity and behavior toward conjugated (electrolytes). These differences are discussed with respect to true colloids such as silicon, copper, Perltite, polymercarbide and the like, and suspended dispersions of BaSO₄, BaCO₃, CaCO₃, Al(OH)₃, Fe(OH)₃ and the like. Julian F. Smith



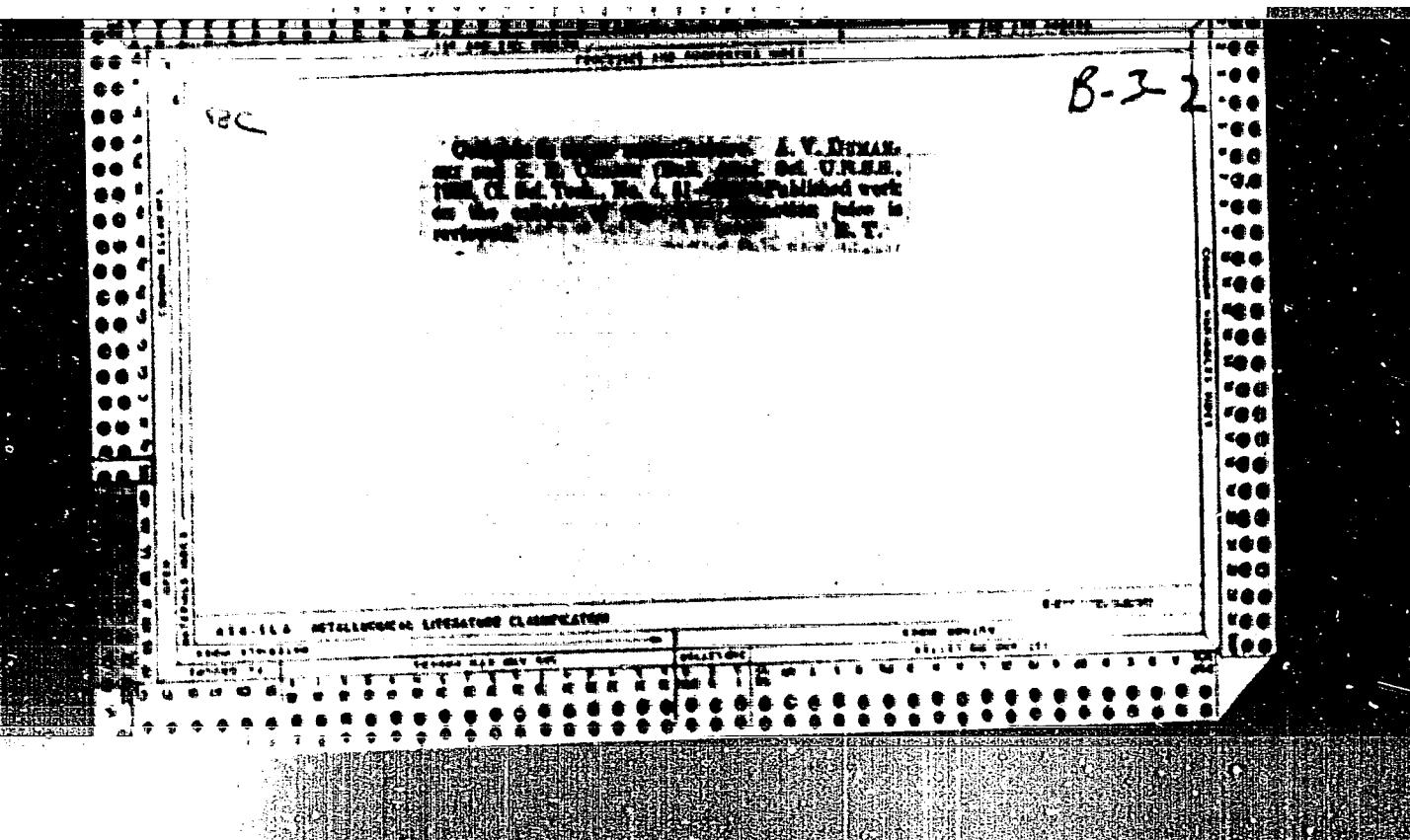
The drying figures of wetted dispersion systems (preceding communication). A. N. DUMINIK, M. N. KRYUCHKOV and B. O. LEBEDEV. *Vestn. Akad. Nauk SSSR*, *Izdatelstvo Akad. Nauk SSSR*, No. 3, 89-96; *Chem. Zentralbl.*, 1938, II, 2030; cf. *C. A.*, 32, 2551^a.—The figures produced during the drying of wet powders of potato starch and clay were studied. The cracking observed in the drying out of moist powder is accompanied by the disintegration of the drying layer into individual pieces as the result of tensile forces between the individual particles and the shrinkage of the surface. These individual sections each have the same perimetry, the magnitude of which is fixed by the degree of dispersion and the thickness of the drying layer.

M. G. Moore



2

The hydrophilic properties of cements and bound water.
A. V. Kostomarov. Sovetskoye Proizvodstvo, Khim. i
Khim. Tekhn., No. 107 (1958). Khim. Referat. Zhur.
1958, No. 7, 11; cf. C. A. No. 54, 7407. A summary and re-
view of the work performed by D. and his collaborators in
the investigation of the hydrophilic (mainly hydrophilic)
properties of cements. The amt. of the solvent bound by
the cement (according to the method of bind. vol.) was
used to the quantity characteristics of the hydrophilic proper-
ties of the cement. Because of the penetration of the water
molecules around the calcium particles the bound water
differs from the free water in its mech. properties, ability
to dissolve, etc. As the distance from the surface of the
particle increases, the concentration of water molecules becomes
less pronounced and the bound water gradually enters the
free solvent. Therefore, the magnitude of the bind. vol.
(bind. with such indicator as glucose) becomes dependent
on the cement, and the nature of the indicator. The effect
of the absorption of the indicator on the results of the
measurements has not been fully determined. The amt. of bound
water depends on the temp., form, of the cement, aging
of the cement and presence of electrolytes in the soln. The
results of the measurements are compared with appro-
priate methods and methods of dilatometry and calo-
rimetry. Analogue results are obtained for the aqueous
solvents (benzene, chloroform, etc.). The importance
of the data of bound water for the control of a no. of tech-
processes in cement making, sugar refining, cheese produc-
tion, leather tanning, production of past., accuracy and
precision is discussed. W. R. Loren



EC

A-1

Kinetics of polymerization and coagulation.
A. V. Derjaguin and J. D. Flory (Kolloid. Z., 1939, 64, 676-70).—The processes of polymerization and coagulation are analogous, the process of coagulation, visualized by Smoluchowski's theory being identical with that of a chain reaction with branching chains. From this similarity the equation $\log \frac{M}{M_0} + \alpha t$ has been deduced for a polymerization process, where M_0 is the initial mol. wt., M that after time t , and α a function of the temp. and v . Experiments on the polymerization of C_6H_6 solutions of bataclans in presence of Na have given results for M agreeing with those obtained from η by Staudinger's method. It seems probable that the slowing down of polymerization reactions in solution is largely due to solvation. The time-distribution curves for various polymerides in the above reaction have been obtained.

R. C.

Breaking and rejoining of elastic gel. A. V. Jannink, and M. G. Storkveld. *Colloid J.* (U. S. S. R.) 14, 181-214 (1959).—The end fraction of protein vesicles in HCl is more than the sum, one, and a half times more than the content of the mid. fraction. There also can be hope by electrodialysis into a mid. fraction owing only traces of P and no band. part about 0.47% P. They and their models believe in breaking the proteins. Although three steps, agree with the theory of Northrop and Kunitz (C. A. 38, 681) a criticism of this theory is given.

• 1 •

BC

R-1

Sorption of carbon dioxide in organic solvents.
A. V. Dzhagava and T. A. GAGARINA (Kololo
Instit., Novosibirsk).—The sorption of $\text{Pb}(\text{NO}_3)_2$
from solution in DCCl by synthetic rubber and of
 C_2H_4 and PbCl_2 from solution in DCCl by cellulose
acetate (I) has been measured. The amounts sorbed
fill with the curves. Bradley's equation (A., 1936,
1457) represents the sorption by (I) satisfactorily
except at the lower concentrations.

R. C.

100-104 METALLURGICAL LITERATURE CLASSIFICATION

TYPE OF SOURCE	SEARCHED	INDEXED	FILED	SEARCHED	INDEXED	FILED
SEARCHED	INDEXED	FILED	SEARCHED	INDEXED	FILED	SEARCHED

(H) 28
Determination of sugar and colloids in the products of the sugar industry. A. V. Demenskii and S. E. Kharis. (Colloid J. (U. S. S. R.) 6, 546-55 (1938).—Polarimetric dets. of sugar in beetroot juice, etc., must be corrected for the val. of the ppt. produced by lead acetate. The correction is calc'd. by comparing the apparent sugar contents (dets. iodometrically) in undil. and double dil.

juice. For dets. of colloids the juice is dil'd. to 12% solid content and its ph is adjusted to 4.5-5.0; 8 cc. of the soln. is ppnd. by 80-90 cc. of 96% alc. and kept for 30 min. on a water bath under a reflux condenser. The ppt. is weighed. Similar recipes are given for sgnr. juice, etc.
I. I. Bikerman

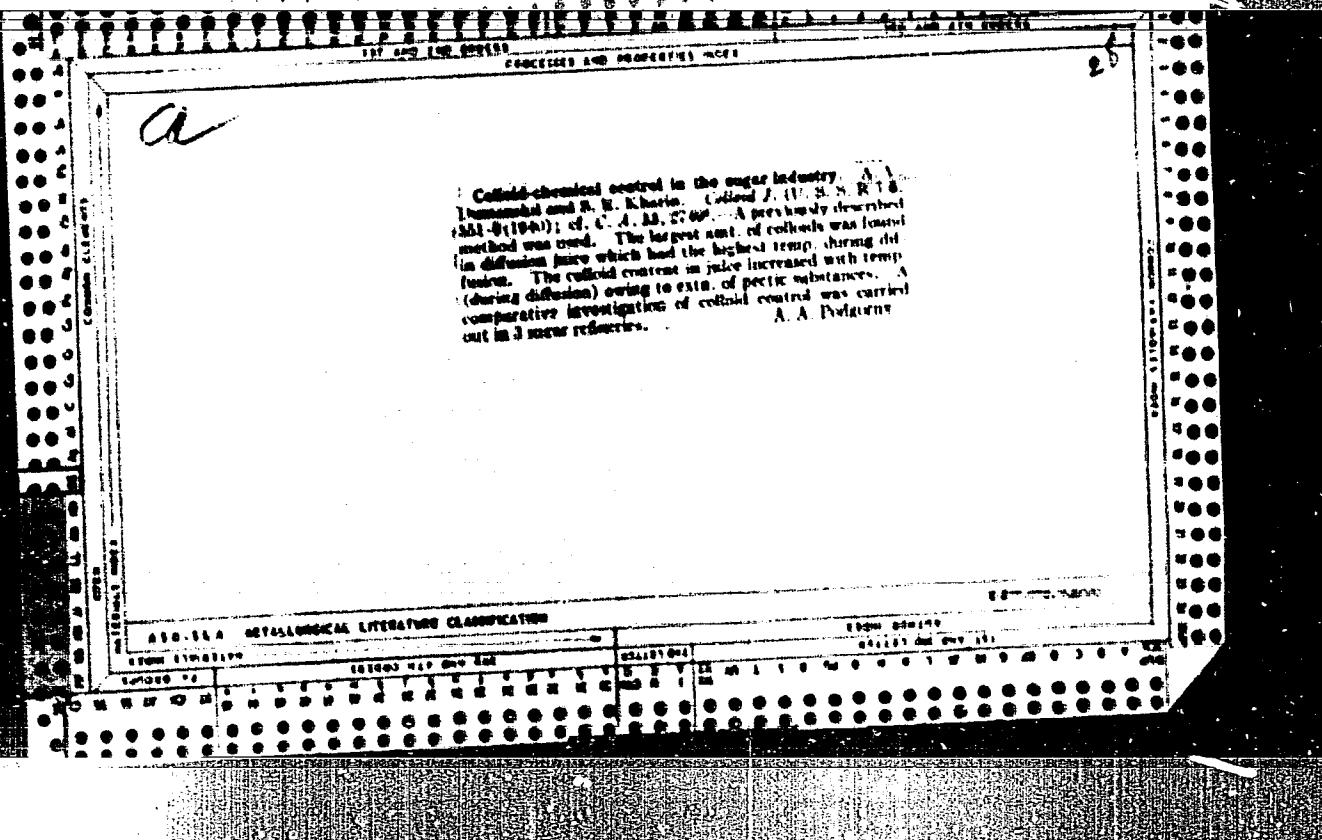
CA

Dissolved and high-molecular systems. A. N. Dzherdzhinskii, Zhurnal Fizicheskoi Khimii 51, No. 10, p. 2261 (1977). - The differences between mols and atoms of high-mol. substances is pointed out. Some methods of deterg., the degree of dissolut., the shape, and the vibration of high-mol. substances are discussed; neither the viscosity nor the osmotic pressure gives the correct value for saturation. J. J. M.

AT&T METALLURGICAL LITERATURE CLASSIFICATION

Acoustical dispersion as a method of studying colloidal solutions. A. V. Dombrowski and M. B. Eberwein. *Colloid J.* (U. S. S. R.) 1, 63-68 (1937).—From published data on the observed dispersion of the dilute, const. soln. of proteins where the molar mass of protein molecule are calcd. by use of the dipole theory of Debye. It is found that the particle size of mica increases with rising temp., and that of egg albumin with diln. J. J. Eberwein





DUBANSKIY, A. V., BALALUYEV, Yu. S. and IL'INSKIY, T. F.

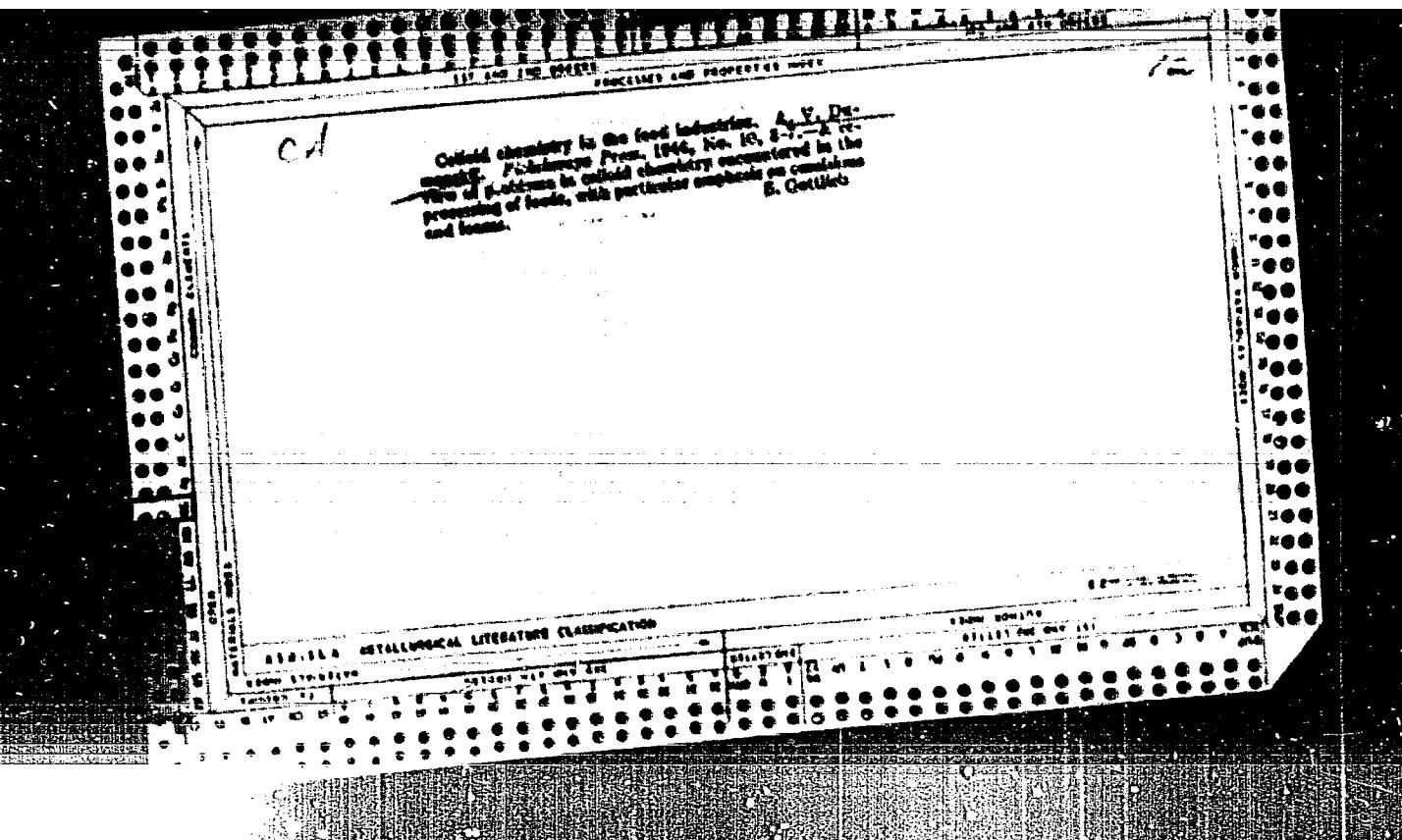
"Action of Composition of Agents on Hydrophilic Nature of Surface of the Solid Bodies," Koll-Zh., 7, 407, 1941.

DUMANSKIY, A. V., and IVANICHEVA, T. Ye.

"On the Characteristics of the Bond of Pectin with Cellulose of Sugar Beets," Noll-Zh, 7, 573, 1941.

DUMANSKIY, Anton Vladimirovich (Dr.)

"Colloid Chemistry in the Food Industries," Pishchevaya Prom., 1944



DUMANSKIY, A. V., and ZAKUSHEV, Z.

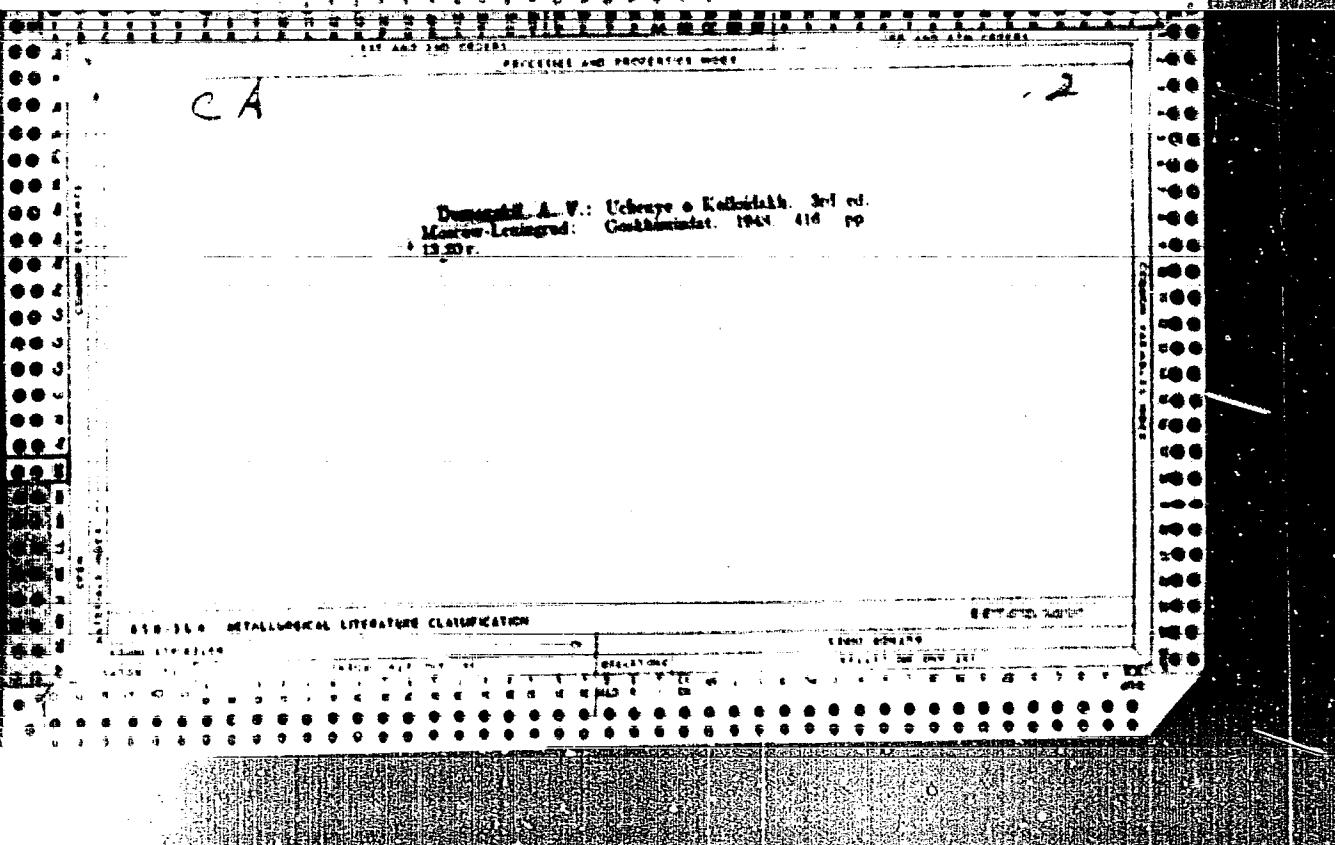
"Colloidal-chemical Process in the Drying of bread, Sbornik 1. voprosov
in the processes of the Food industry," Pishchepromizdat, 1946, 4.

DUMANSKIY, A. V.

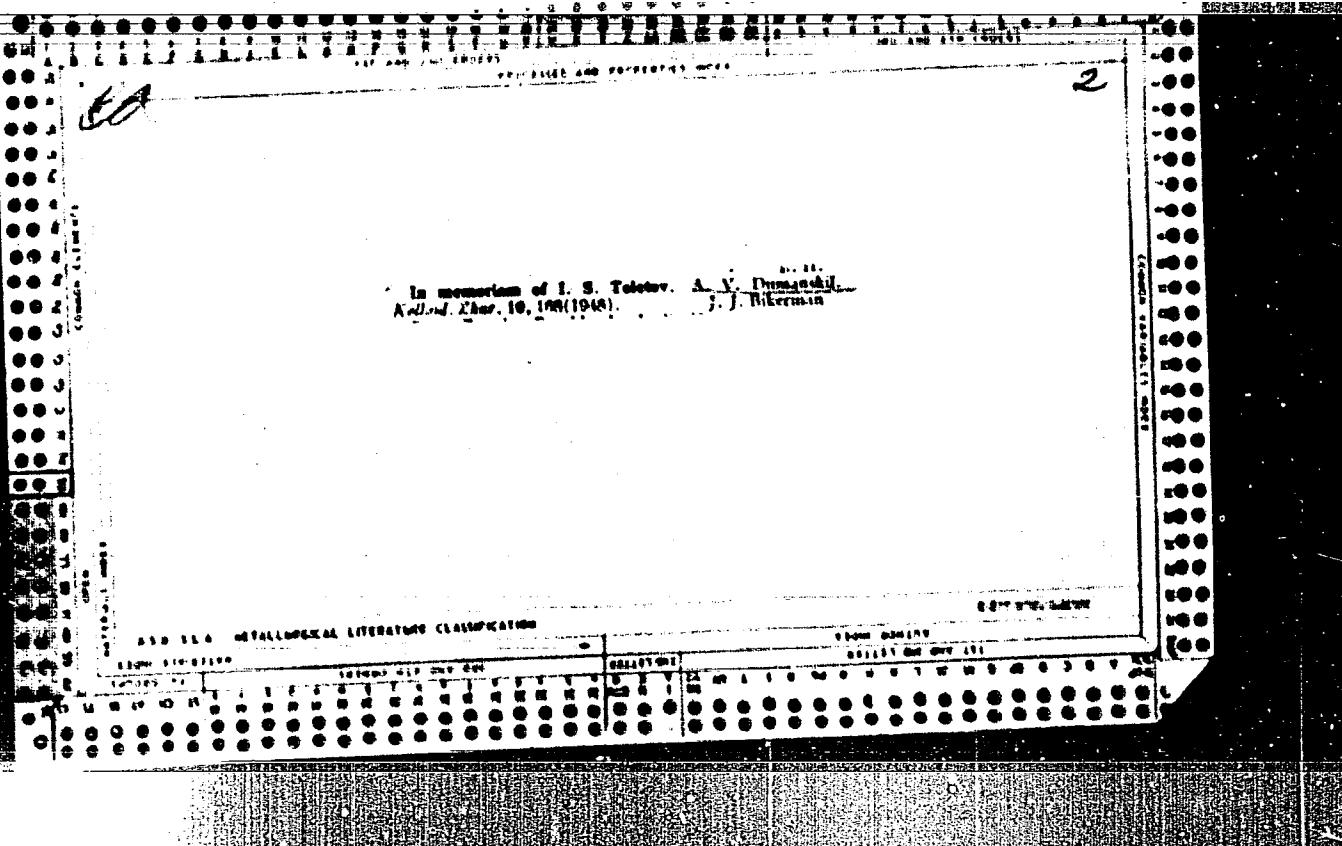
"Short historical Sketch on the Development of native Colloidal Science, 1808-1942," Koll-Zh, 8, no 1-2, 5, 1946.

The curve of the heat of ignition of dry starch in H_2 + EtOH mixt., is
conic of the course of the burning liquid is S-shaped. A
falling with increasing time of ignition is observed rapidly
from 30% to 10% of the initial density.

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In memoriam of I. S. Tolstov. A. V. Prusetskii
Akad. Zher. 10, 198(1948). J. J. Rikerman



B
EE

Methods of Determination of Hydrophilic Properties of Dispersed Systems. (In Russian.) A. V. Dumanakii and R. V. Volzokhovskii. *Kolloidnyi Zhurnal* (Colloid Journal), v. 10, Nov.-Dec. 1948, p. 413-422.

Compares methods of determination of chemically bonded water performed on the same type of potato starch. Deviations observed during application of methods using the pycnometer and the dilatometer were explained by experimental errors. 16 ref.

610-514 METALLURGICAL LITERATURE CLASSIFICATION					610-514 METALLURGICAL LITERATURE CLASSIFICATION					610-514 METALLURGICAL LITERATURE CLASSIFICATION					610-514 METALLURGICAL LITERATURE CLASSIFICATION				
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DUMANSKIY, A. V.

PA 707

USSR/Chemistry - Dispersed Systems Mar/Apr 1948
Chemistry - Heat of Hydration

"Hyophilic of Dispersed Systems: IX. Heat of Hydration of Starches, Gelatins, Agar, and Silicon Anhydride With Water and Alcohol," A. V. Dumanskiy, Ya. F. Nekryash, Colloidal Lab, Inst of Gen and Inorg Chem, Acad Sci USSR, 9 pp

"Molloyd Zhur" Vol X, No 2

Discusses the heat of hydration of starchy water and alcohol, starchy water and sugar, solutions of starch and water and alcohol and water, gelatin and agar with alcohol and alcohol solutions, and silicon anhydride powder. Gives conclusions obtained as result of the experiments. Submitted 2 Jan 1948.

707

Swelling of agar in mixtures of Glycerine, water, and ethyl alcohol. A. V. Dzherman, Yu. P. Moshkovskii, and N. P. Neklyudov. Zhurnal fizicheskoy khimii, 19, 109-6 (1945); cf. Acad. SSSR (1947).—Agar swells more than gelatin in water, conte- nts much diamine or peptidols etc., but the swelling of gelatin is greater in H₂O-rich mixts., and also in some alk.-rich mixts. In H₂O 0.5-mm. thick agar and gelatin plates took up 8.3 g. and 7.8 g. H₂O per g., resp. The const. k of solvent taken up increases with time t according to $k = k_0 e^{kt}$, k_0 and k being const.

I. I. Biderman

Inat. Gen. + Inorg. Chem. AS Ukr SSR

ASS-11A METALLURGICAL LITERATURE CLASSIFICATION

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✓ 2
Methods of determination of the hygroscopicity of Gc.
Korobkin, A. V. Domanoff and N. V. Vol'tskii.
Borodil'. Khim. i khim. tekhnika, 1957, 5(1)-22(1958); cf. preceding
story.—Several methods were used to det. the amt. (e%)
of H₂O bound by 1 g. of potato starch (I) and gave results
in mutual accord. Gartner's cryoscopic method yielded
 $e = 21\%$. The increase of sucrose concn. e on increasing
I to sucrose ratio, gave $e = 26-0.190$, i.e. $e = 35\%$ for
pure H₂O. The lowering of the heat of wetting of H₂O
by introducing I into it yielded $e = 33\%$. 1 kept until
equil. over 10% NaClO, took up 30% H₂O. From literature
data (Chemic. Periodic (U.S.S.R.) 1944, 18) on ap-
pr. of I in H₂O and because $e = 38\%$, Extrapolation of
the heat of wetting (preceding story) gave $e = 37\%$.
Only the vol. change on freezing I - H₂O mixture, yielded
 $e = 33-35\%$, but the results were violated by air present
in the system. From the heat of wetting and e , the mol.
wt. of I is 80,000. J. Biberman

CJ

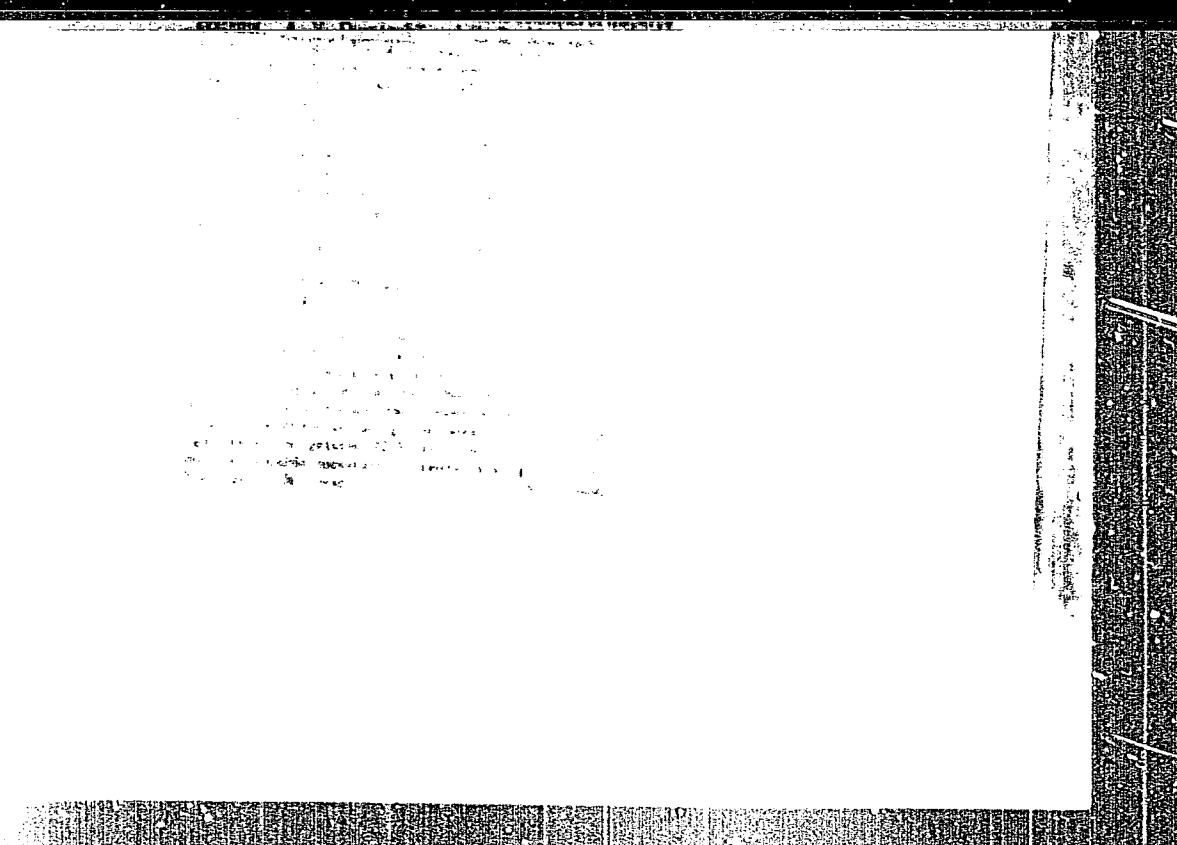
3

Determination of the hydrophilicity of starch rods from the dispersion of the dielectric constant. A. V. Imanishi and O. D. Kurnikian. *Debye-Peierls*, No. 6, N.S.V.R., 1957-9(1958). Measurements of the dielectric constant of starch rods of 0.5, 1.0, 1.5, and 2.0 g. starch/100 g. H₂O, by Wien's Interferometer (10, 10, 7100°, 20, 100), between 2000 and 6000 kilohertz, evidence presented of dispersion in longer waves. Between $\log \lambda = 1.7$ and 2.4, ϵ for each concn. varies but very little with λ , and is higher the more dil. the soln.; at $\log \lambda = 2.4$, all 4 solns. have the same ϵ ; above $\lambda = 2.4$, ϵ increases rapidly with $\log \lambda$, the faster, the higher the starch content of the soln. The amt. n of H₂O bound, in g. per 1 g. starch, was calc'd. by $n = [f_0(P_w - P_d)/g(P_w - P_s)] = [(P_w - P_d) \cdot (P_w - P_s)]$, where $f_0 = \text{amt. of H}_2\text{O per }2\text{ moles of disper-$ se phase; $P_w = \text{sp. polarization}$, the subscripts w, s, d, and d referring, resp., to H₂O, sol., bound H₂O, and disperse phase, with $f_0(10^3) = 101$, $n_w = 2.2$, n (starch) = 10.6, d (starch) = 1.47 and $d_w = 1.2$, one finds, for 0.5 g. starch/100 g. H₂O, $n = 0.3$, and for 2.0 g., $n = 0.2$. The dipole moment, calc'd. by Debye's equation (with the molecular wt. of starch taken = 1×10^6) is ~ 30 D. This high value indicates that, in the high-frequency field, starch particles rotate as a whole, not by sep. links, groups, or radicals; i.e., the particles represent rigid systems.

DUMANSKIY, A. V.

"Hydrophilic nature of Colloidal Systems and their theoretical and practical significance, Sbornik 2. Colloids in the processes of the Food industry,"
Fishchepromizdat, 1949, 8 pp.

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00041152



APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00041152C

DUMANSKY, A. V.

PA 45/49721

USER/Chemistry - Colloids
Chemistry - Sol's

Mar/Apr 49

"Application of the Method of Distribution of Dielectric Constants to Determine the Hydrophilic Nature of a Starch Sol." A. V. Dumanskiy, O. D. Kirilenko, Lab of Colloid Chem, Inst of Gen and Inorg Chem, Acad Sci Ukrainian SSR, 54 pp

"Kolloid Zahr" Vol XI, No 2

Measures dielectric constants in solutions of starch paste of various concentrations in frequency range 5,000 to 60 kc. Observes distribution of dielectric constant. Calculates amount of water fixed by one

DESK/Chemistry - Colloids (Coats)

Mar/Apr 49

gram of starch. Value roughly coincides with that obtained by other methods. Calculates dipole moment of starch in paste by Debye's equation. Suggests that in starch there is no independent movement or oscillation of polar groups of links. Submitted 12 Jul 48.

45/49721

DUMANSKIY, A. V.

27/49F15

USSR/Chemistry - Heat of Swelling
Chemistry - Heat of Wetting Feb 49

"Wetting and Swelling Heats," A. V. Dumanskiy, Corr
Mem, Acad Sci USSR, 2 pp

"Dok Ak Nauk SSSR" Vol LXIV, No 4

Application of Hess' method, designed for solution of
thermochemical equations, to heating effects during
wetting and swelling permits satisfactory investi-
gation of these heats and writing of equations de-
scribing these processes. Submitted 4 Dec 48.

27/49F15

Heats of wetting and hydrophilic of disperse systems
 A. V. Dushman (Anal. No. 134 S.S.R., 1955). A review of the work of 1954 (14, 43, 7784) and the following about 1955. The heat of "bound" H_2O can be calcd. from the heat of wetting (Ω) from a, viscosity, dielectric, and by freezing out, $\Omega = 0.11 \times 10^4 \text{ ergs/cm}^2$. The ratio Ω/ϵ is independent of solvent being 7.0-8.0 cal./g. for agar, starch, wheat gel, clay, kaolin, Na-stearate, and the liquid fraction of gelatin. The area of solvent covered by 1 g. of "bound" H_2O is $0.116 \text{ cm}^2/\text{g.}$ and is measured in ergs. 160 ergs is the total surface energy of 1 $\text{cm}^2 \text{ H}_2\text{O}$. The exact value of $0.116 \text{ ergs}/2.5 \text{ \AA}^2$ for the thicknesses of the "bound" H_2O layer, i.e. of "bound" H_2O is 1.4. If wetting is not accompanied by soln., Ω is independent of temp., T ; otherwise, the heat of soln. decreases 0.4% . The Ω of starch by EtOH is small, because the large EtOH molecules can reach only 1/3 of the starch surface accessible to H_2O . J. J. Dakin.

1 J. Math. Stat.

19

Heats of wetting of Glinkovets kaolin and Chaves-Yar
clay. A. V. Ilyinskii and V. D. Ovcharenko (Acad. Nauk Ukr. SSR, Kharkiv, UkrSSR, Akademiya Nauk, Zbir. 12, 231-7 (1969))
Kaolins (I) and clay (II), when raw, have lower heats of wetting (ξ) than when add. with K⁺. For K-I and K-II, after drying at 110°, ξ was 1 and 6 cal., resp. If the thickness of the adsorbed H₂O layer is 3.5 Å, the heat, (A) of H₂O "bound" by K-I and K-II was 1.2% and 7.8%, resp. From the reg. adsorption of sugar, A was 2 and 7%, resp. The specific surface of K-I and K-II, calc'd. from ξ , was 25 and 210 sq. mm., while sedimentation analysis gave 0.2 and 0.8 sq. mm., showing that the inner surface of particles also is accessible to H₂O. I and II contg. more H₂O than A (e.g., 4% and 13%, resp.) also have considerable ξ ; this is attributed to capillary condensation. — J. J. Bakeman

DUMANSKIY, Anton Vladimirovich

Bibliograficheskiy Ocherk Razvitiya Otechestvennoy Kolloidnoy Khimii
[Bibliographic Outline of the Development of Indigenous Colloid Chemistry],
No 1, 2nd edition, Kiev, 1951 (in collaboration with I. A. Dumanskiy)

SO: Bol'shaya Sovetskaya Entsiklopediya, 2nd edition, Vol XV, Moscow, 1949

DUMANS'KYI, A.V., diysnyy ohlen; DEMCHENKO, P.A.

Investigation of the viscosity of concentrated solutions of hard soap. Dop.
AM URSR no. 3:135-137 '51. (MIRA 6:9)

1. Akademiya nauk Ukrayins'koyi RSR (for Dumans'kyi). 2. Instytut zahal'noi
ta neorhanichnoyi khimiyyi Akademiyi nauk Ukrayins'koyi RSR. (Soap)

OVCHARENKO, F.D.; DUMANS'KYI, A.V., diysenyy chlen.

Temperatures for soaking calcined clays. Dop. AM URSR no. 3:138-141 '51.
(MLRA 6:9)

1. Akademiya nauk Ukrayins'koyi RSR (for Dumans'kyi). 2. Instytut zahal'noyi
ta neorhanichnoyi khimiysi Akademiyi nauk Ukrayins'koyi RSR (for Ovcharenko).
(Clay)

OVCHARENKO, F.D.; BYKOV, S.P.; DUMANS'KYI, A.V., diysenyy chlen.

Characteristics of the water bond in clays and the kinetics of dehydration.
Dop. AM URSR no. 3:142-146 '51. (MERA 6:9)

1. Akademiya nauk Ukrayins'koyi RSR (for Dumans'kyi). 2. Instytut zahal'noyi
ta neorhanichnoyi khimiyi Akademiyi nauk Ukrayins'koyi RSR (for Ovcharenko
and Bykov). (Clay)

CA

2

Effects of wetting and the hygroscopicity of flour. A. V. Lopushanski and B. F. Nekryach. Kolloid. Zhar. 13, 23 6 (1931).—Flour was kept over 5% H_2O , until equal; then the water content γ of the flour was 20-22%, 13-14%, 11-12%, and 6.0-6.6% at $\vartheta = 0, 20, 30$, and 50%. The difference between γ of wheat flour (3 sorts), rye (2 sorts), barley, and oat flour were insignificant. The heat of wetting (ΔH , C.A. 32, 7184) decreased when γ increased: it was 29-30, 7.0-9.0, 4.0-8.0, and 0.4-0.7 cal/g at $\vartheta = 0, 10, 14$, and 20%. The added amt. of bound H_2O was 20-35% almost independent of the nature of flour. J. J. R.

1951

1. DUMANSKIY, A.V.; NATANSON, YE.M.; NEKRAYACH, YE.F.
2. USSR (600)
4. Colloids
7. The second All-Union Conference on colloid chemistry in Kiev, June 13-18, 1950.
(Problems of structure formation and solvation.) A.V. Dumanskiy, E.M. Natanson,
YE.F. Nekryach, Ukr.khim.zhur. 16 no. 6, 1951.
9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953, Uncl.

DUMANSKIY, A.V.; KURILENKO, O.D.; BARASHENKOV, G.B.

Dielectric constants of emulsions. Ukr.khim.shur.17 no.1:118-122
'51.
(MIRA 9:9)

1.Institut obshchey i neorganicheskoy khimii Akademii nauk Ukrainskoy SSR.
(Emulsions)

47

Hydrophilicity of sodium soaps of stearic and palmitic acids. A. V. Dussekoff and P. A. Denchukko. Doherty, *Anal. Acta* 3, 37-41 (1961).—Heats of wetting of vacuum-dried soaps with H₂O and with a 3% NaCl in H₂O were determined in an adiabatic calorimeter. The data [mol. wt., Q = heat of wetting, cal./g. (cal./mole)] are: Na stearate, 308.4, 4.30 (1208); Na palmitate 329.3, 6.11 (1322); mixed Na stearate-palmitate, 316, 4.48 (1028). The const., A, of H₂O tension, calcd. by the formula of Dussekoff, et al. (C.A. 55, 7734) / A = Q/0.4, are, resp., 17.41 g./mole (8.25%), 17.70 (8.25%), 17.70 (8.25%). The thermal effect decreases with increasing皂素 content of the soap and becomes 0.0 at a H₂O content of 8.30, 6.40, and 5.58%, resp. Further addition of H₂O is accompanied by no further heat evolution. These const. of H₂O correspond closely to the monohydrates. The calorimetric data check closely

with data made by introducing a known amt. of the soap into a layer of xylene floating over a layer of H₂O, and detg. the amt. of H₂O gone over into the xylene layer on 3-30 days standing.

N. Thor

DUMANSKIY, ANTON VLADIMIROVICH

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RAZVITIYE OTECHESTVENNOY KOLLOIDNOY KHIMII (DEVELOPMENT OF NATIVE COLLOIDAL CHEMISTRY) KIYEV, IZD-VO AKADEMII NAUK UKRAINSKOY SSR, 1952.

27 P. (AKADEMICHESKIYE CHTENIYA)

AT HEAD OF TITLE: AKADEMIYA NAUK UKRAINSKOY SSR. RADA NAUKOVOTO-TEKHNICHNOYI PROFAHANDY.

OVCHARENKO, F.D.; NEYMARK, I.Ye.; SLYNYAKOVA, I.B.; BYKOV, S.P.; DUMANS'KYI, A.V.,
diysnyy chlen.

Hydrophilic and adsorption properties of certain natural sorbents. Dop. All
(MLRA 6:10)
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1. Akademiya nauk Ukrayins'koyi RSR (for Dumans'kyi). 2. Instytut fizychnoyi
khimiyyi i instytut zahal'noyi ta neorganichnoyi khimiyyi Akademiyi nauk Ukrayins'koyi RSR
(for Ovcharenko, Neymark, Slynyakova and Bykov).
(Sorbents) (Clay)

DEMCHENKO, P.O.; DEMCHENKO, L.H.; DUMANS'KYI, A.V., diyanyy chlen.

Investigation of the oleophytic properties of hard soap saturated with
aliphatic acid by the heat of wetting method. Dop. AM URSS no.4:284-288
'52. (MLRA 6:10)

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ta neorganichnoyi khimiysi Akademiyi nauk Ukrayins'koyi RSR (for Demchenko,
P.O. and Demchenko, L.H.) (Soap)

DUMANSKIY, A.V.; DUMANSKIY, I.A.; PIALKOV, Ya.A., otvetstvennyy redaktor;
ZIL'FON, M.S., redaktor; KRYLOVSKAYA, N.S., tekhnicheskiy re-
daktor.

[Bibliographical essay on the development of Soviet colloid
chemistry] Bibliograficheskii ocherk razvitiia otechestvennoi
kolloidnoi khimii. Izd. 2-oe. Kiev, Izd-vo Akademii nauk USSR.
No.1. 1952. 147 p. (MLRA 9:6)

1.Chlen-korrespondent Akademii nauk Ukrainskoy SSR.(for Pialkov).
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N.P., tekred.

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(MIRA 12:4)

1. Deystvitel'nyy chlen Akademii nauk USSR (for Dumanskiy).
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(Colloidu)

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Cleophilic properties of soaps. P. A. Demchenko, A. V. Dumenko, and L. G. Dvorchenko (Akad. Nauk. Ukrainsk. SSR, Kiev). Kolloid. Zhar. 16, 166-71 (1962).—Soaps dried at 115° for 8-30 hrs. were tested with hydrocarbons. The heats (Q) of melting (cal./g. of soap) were 1.19, 1.18, 1.47,

and 1.16 for Na stearate in hexane (I), octane (II), styrene, and petroleum (III), resp.; 1.07, 1.08, and 0.94 for Na palmitate in I, II, and III, resp.; 0.30 and 0.38 for Na butyrate in II and III, resp., and 0.18 and 0.16 for Na propionate in I and III, resp. Q is proportional to the no. of C atoms in the soap mol. If soap is mixed with 1 mol. of hydrocarbon and then dried, with the same hydrocarbon, the heat of diln. is very small (0.004-0.08 cal./g. for Na stearate). This shows that soap forms a chem. compd. with 1 mol. hydrocarbon. This chem. reaction explains the solubilization of hydrocarbons by soaps. Soaps remove "oils" from solid surfaces when the energy of binding between soap and oil is greater than that between oil and oil.

J. J. Bikerman

CTRSP_L Vol. 5-No. 1 Jan. 1952

Dmitrievskii, A.V. and Demchenko, P.A., Hydrophilic nature of sodium soaps of stearic and
Palmitic acids, 277-8

Akademiya Nauk, S.S.R. R., Doklady Vol. 78, No. 1

1. DUMANSKIY, A. V.; ISHLINSKIY, A. YU.

2. USSR (600)

4. Bark

7. Regularities of tree bark cracking. A. V. Dumanskiy, A. Yu. Ishlinskiy.
Dokl. AN SSSR 84, No. 1, 1952.

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Recd. 28 Jan. 1952

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UNCLASSIFIED.

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Dielectric properties of emulsions of the type water-oil, in flow. Koll.
shur. 15 no.5:361-364 '53. (MLRA 6:9)

1. Institut obshchey i neorganicheskoy khimii Akademii nauk Ukrainskoy SSR,
(Emulsions)
Kiev.

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CIA-RDP86-00513R00041152

DUMANSKIY, A.V.; DEMCHENKO, P.A.; DEMCHENKO, L.G.

Dependence of viscosity of concentrated soap solutions on temperature.
Maslobeyno Zhirovaya Prom '53, No.3, 14-16,
(MLRA 6:3)
(CA 47 no.17:9036 '53)

APPROVED FOR RELEASE: Thursday, July 27, 2000

CIA-RDP86-00513R00041152C

OVCHARENKO, F.D.; DUMANS'KYI, A.V., diysnyy chlen.

Electrokinetic potential of clays. Dop. AM URSR no.5:323-326 '53.
(MLRA 6:10)

1. Akademiya nauk Ukrayins'koyi RSR (for Dumans'kyi). 2. Instytut zahal'noyi
ta neorganichnoyi khimiyi Akademiyi nauk Ukrayins'koyi RSR (for Ovcharenko).
(Clay)

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00041152

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00041152

DEYNEGA, Yu.P.; ROMANSKIY, A.V.; KURILENKO, O.D.

Dielectric properties of the vanadium-pentoxide sol in a flow. Koll. zhur.
15 no.4:234-237 '53. (MIRA 6:8)

1. Institut obshchey i neorganicheskoy khimii Akademii nauk SSSR (Kiyev).
(Dielectrics) (Vanadium pentoxide)

DUMANSKIY, A.V.

Chem Abstr V 76

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general + Physical
chemistry

No 1

(4)

✓ The dielectric properties of streaming emulsions of the ~~oil~~ type. Yu. F. Deliberg, A. V. Duman斯基, and D. P. Kurnikovsky [Inst. Gen. Phys. Inst. of Chem. Sci. Ukr. SSR. Kiev]. Kvant. Zavod. 1953, 15, 351-4 (1953).
U.S.S.R. [Soviet Union]. Kvant. Zavod. 1953, 15, 351-4 (1953).—
The dielec. const. ϵ of an emulsion of 0.5N NaOH in purified transformer oil, stabilized with Mg oleate, was independent of the time that the emulsion spent in the condenser before measurement and of whether the emulsion was or was not sheared between coaxial cylinders. The ϵ of a coagulated emulsion increased in time if the internal cylinder almost reached to the bottom of the external cylinder (app. A), and decreased in time if there was ample space under the bottom of the internal cylinder. This emulsion deposited a conducting layer; ϵ was great when this layer remained between the cylinders and small when the settling lowered the cones. ϵ of the emulsion between these, and the sediment was not measured. The ϵ was a linear function of t . Shearing of destabilized emulsions in A lowered ϵ , because it disturbed the bottom layer. This explains Voet's results (C.A. 43, 17c). J. J. Bikerman

6-15-54
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DUMANSKIY, A. V., DEMCHENKO, P. A., DEMCHENKO, L. G.

Soap

Viscosity of concentrated soap solutions as a function of temperature. Masl. -zhir. from. 18, No. 3, 1953.

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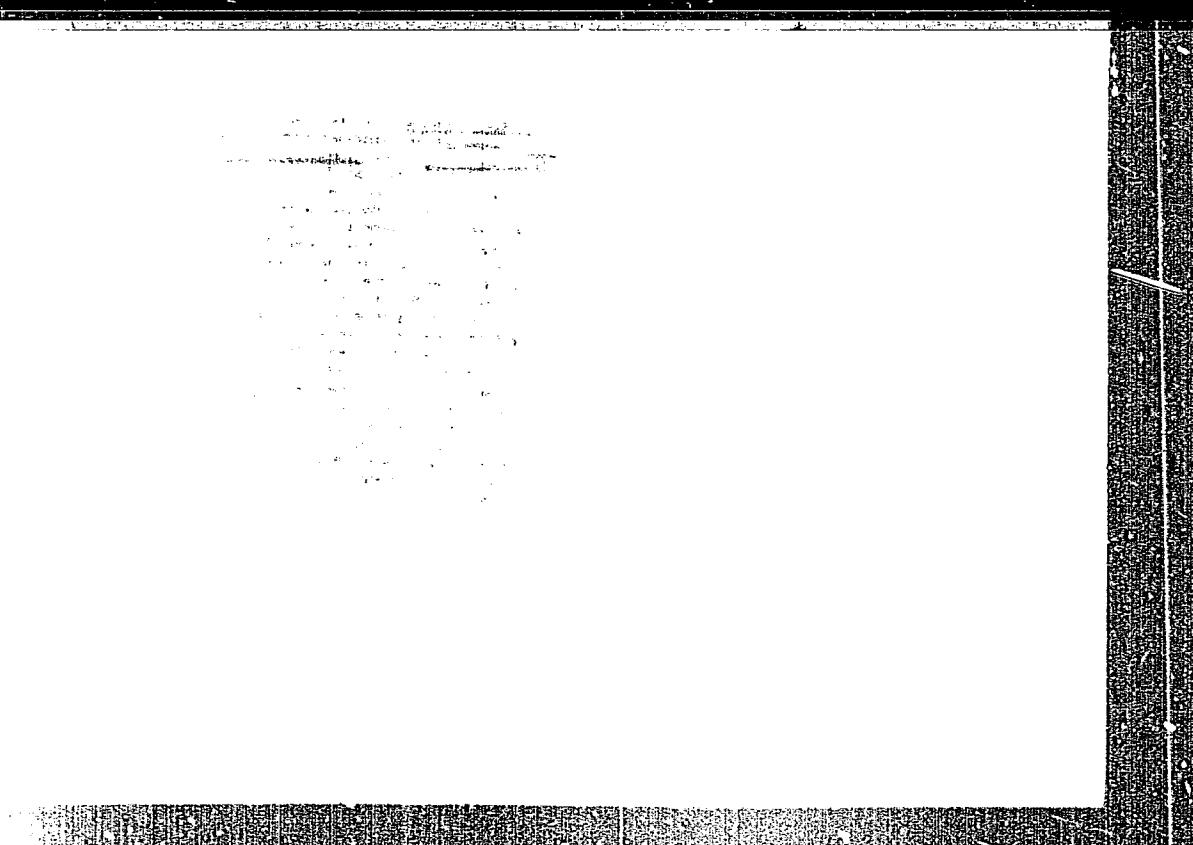
DUMANSKII, A. V.; MENNYACH, Ye. F.

Cement Kilns

Use of scrubbers for washing flue gases of automatic shaft furnaces. TSegment 19, No. 1
1953.

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DUMANSKIY, A.V., otvetstvennyy redaktor; SANOKHVALOV, Ya.A., redaktor;
SIVIEMESKO, Ye.K., tekhnredaktor.

[Control of percolation in loess soils] Bor'ba s fil'tratsiei
vody v lessovyykh gruntakh. Kiev, Izd-vo Akademii nauk USSR, 1954.
145 p. [Microfilm] (MLRA 7:11)

1. Deystvitel'nyy chlen Akademii nauk Ukrainskoy SSR.(for Dumanskiy)
(Soil percolation)

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00041152

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DUMANSKIY, A.V., redakter; MASHKARA, I.I., redakter; OVCHARENKO, P.D.,
kandidat khimicheskikh nauk, redakter; ROTTER, V.A., doktor
khimicheskikh nauk, professor, redakter; SEMENSKIY, I.D.,
doktor geologo-mineralogicheskikh nauk, redakter; MIKHAILOV,
R.V., redakter; KAZANTSEV, B.A., redakter; SIVACHENKO, S.K.,
technicheskiy redakter.

[Bentonite clays of the Ukraine; a collection of papers] Ben-
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(MIA 9:5)

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nauk UkrSSR, Kiev. Rada vydeleniya produktivnykh syl.
(Ukraine—Bentonite)

DUMANSKIY, Anton Vladimirovich; OVCHARENKO, F.D., kandidat khimicheskikh nauk,
otvetstvennyy redakteur; LEVBERG, Z.A., redaktor izdatel'stva; RAEHLIKA,
N.P., tekhnicheskiy redakteur.

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chemistry] Bibliograficheskii ocherk razvitiia otechestvennoi
kolloidnoi khimii. Klyev. Izd-vo Akademii nauk USSR. No.2
(1936-1941 gg.) 1955.238 p. (MLRA 9:6)

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